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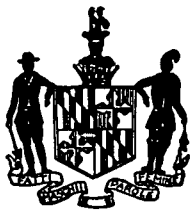
REPORT OF

THE STATE OF MARYLAND

COMMISSION TO STUDY HOSPITAL COSTS

TO

THE HONORABLE J. MILLARD TAWES
GOVERNOR OF MARYLAND



1964

STATE OF MARYLAND
COMMISSION TO STUDY HOSPITAL COSTS

Appointed March 6, 1963 by
The Honorable J. Millard Tawes
Governor of Maryland

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STATE OF MARYLAND
COMMISSION TO STUDY HOSPITAL COSTS
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June 25, 1964

The Honorable J. Millard Tawes
Governor of Maryland
Annapolis, Maryland

Dear Governor Tawes:

The essence of your charge to us on March 6, 1963, was "to examine all factors contributing to the rising cost of hospital services and to submit recommendations to change this trend without affecting the quality of medical care given in our hospitals."

This is the report which endeavors to answer the questions involved in the task you asked us to undertake.

We believe we have set forth a full answer as to why hospital costs have increased as sharply as they actually have over the past decade, not only the type of increased expenditure but also the root causes for the increase.

We have also found the factual answers to a number of questions and disputed beliefs concerning hospital utilization and its effects upon cost, about which the public has heretofore not had the benefit of adequate data.

Many of the facts developed during our study of more than a year have never been gathered before for Maryland. It is our hope that all of them will help to provide a firm base upon which sound judgments and future actions can be developed by all concerned.

While we believe that the main causes for rising hospital costs are still in effect, and probably in undiminished force, we find a number of areas in which reductions should be possible without lowering the quality of health care. Furthermore, aside from the matter of hospital costs, and perhaps of even greater importance, we find that a major solution is needed for the fact that certain communitywide costs are now saddled on only a portion of hospital users. We also think that an effective planning mechanism needs to be created so as to avoid unintended waste and duplication of efforts. Our proposals for developing all three of these matters, along with a suggestion as to an administrative method for furthering and accomplishing the needed solutions, are set forth in the immediately ensuing "Conclusions and Proposals."

Quick and easy solutions to the cost problem are not possible. Indeed, much cooperative work between the hospitals, our physicians, the public itself, and the State and local governments, will be required to effect the proposals we have made; and some courageous decisions will be needed, too. However, the quick and complete cooperation we have received from all concerned with the hospital problem—whether hospital, physician, insurance, or government—permits us to express the belief that the suggested improvements can and will be made.

For summation purposes the "Conclusions and Proposals," "Summary of Detailed Findings," and "Maryland Hospital Costs in Perspective" precede the detailed study itself.

Very truly yours,

Chairman

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CONCLUSIONS AND PROPOSALS

We have endeavored to make the deepest and most extensive examination ever attempted of the facts about the cost of operating the general or short-term hospitals in Maryland, about bed capacities and the various aspects of how they are utilized for patient care, and whether there is any significant "abuse" or misuse of these facilities. The volume of the facts and statistics which it has been necessary to gather and interpret in order to examine and evaluate this complex problem has been on a very large scale.

The findings from this wide and deep examination can be summed up in these basic conclusions:

1. *We do not believe that any really significant portion of the large cost increases which have taken place during the last decade could have been avoided.*

   One single factor, rising wage rates with shortened workweek, caused sixty per cent of the total increase in the average inpatient costs per day which occurred since 1953. This one factor was one and a half times greater than all the other causes put together.

   A substantial part of the remaining increase in average per-day costs was caused by the advances in medical technology made during this period. While they produced vastly better patient care and resulted in many additional patients being cured, or improved, these advances have inescapably required more costly procedures, addition of expensive equipment, highly trained paramedical personnel, and more complex patient care.

   Inflation in price levels generally, replacement of old facilities with more costly new ones, and rising standards for patient comfort, also added to increased costs per day.

2. *The evidence indicates that there has been no decline whatsoever from former standards as regards the length of stay of patients, or the occupancy rate of the hospital beds in Maryland. The evidence also indicates that this State does not have too many hospital beds.*

   Marylanders have less hospital beds available to them, per thousand people, and get along with less days of hospital care, than is true elsewhere in this general area of the United States or for the nation as a whole.

   The average length of stay in Maryland is now actually slightly less than a decade ago (8.2 versus 8.4 days on the average).

   The "occupancy factor" of hospital beds is higher, i.e., more intensive (79.5% versus 74%, on the average).

   The number of hospital beds is probably on the low side of what it should be and not on the high side. It is below nationally recommended standards and national averages.

   The days of hospital care given is some 20% less per thousand persons than the national average. This is the best single overall evidence as to the combined effect of admissions, lengths of stay, occupancy factors, and number of hospital beds in service.

3. *The evidence does not indicate that hospitals are improperly used to any significant extent, or to a degree that could have significantly affected hospital costs in the past decade.*

   An elaborate study and examination by qualified physicians of the medical record for every patient in every general hospital in Maryland on a selected day—a normal weekday on which the available beds were 86% occupied—and as more fully described in Section IV of this Study, indicated that the number of "questionable" cases or "questionable" tests and procedures was quite low, considering that decisions of health or danger to life were involved.

   In only .6% of the cases did the two reviewing doctors agree that the admission could be medically questioned.

   In an additional 4.8% of the cases one, but not the other, of the two reviewing doctors found cause to medically question the hospitalization.

   The reviewing physicians could give no consideration or weight to home conditions or other social and nonmedical circumstances, and if weight is given to these factors which must also influence both the admission and the time of discharge of the patient, a lower level of figures would be more accurate measures of the actual conditions.

   There was another group—5½%—where there were some elements of doubt in varying degree.

4. *Maryland's trends since 1953 as to hospital admissions, length of stay, occupancy factors, and costs have corresponded directly with the trends in the nation. The various levels in Maryland are similar to those for the nation.*

The conclusion is fully warranted that the rise in Maryland's hospital costs has been due to factors which are national in scope rather than local.

5. *Hospital costs for the immediately ensuing years will continue to be affected by two forces which will tend to make those costs rise further.*

   a. The factors which caused the rise during the last decade are still operative, particularly rising wage rates and more complex medical care technique.

   b. The public will continue to want, and expect, easier access to hospitals and greater use of hospital services, notwithstanding higher costs. This is the result of such social forces as a higher standard of living, greater proportion of married women in outside employment, greater mobility of the population, better education, and greater interest in good health.

6. *There are a number of areas in the hospital cost structure in which savings should be possible.*

   The Commission lists eleven areas where substantial effort should be applied and where cost improvement can be reasonably expected. Included therein are recommendations that hospitals as a group should probe certain aspects of their activities, that physicians look more closely at some of their practices which have an effect upon hospital costs, and that governmental bodies look at some of their policies which affect both costs and rates to the patient. The eleven areas are documented in detail in Section VIII of this Study and are briefly summarized immediately following these Conclusions and Proposals.

7. *Constructive solutions to the task of holding down hospital costs should not be permitted to affect the quality of medical care given in our hospitals.*

   Two of the Commission's findings should be heeded by the public and its representatives in its search for such solutions:

   a. A voluntary and cooperative mechanism such as America's unique hospital system intimately involves *all* the population at one time or another, *all* the physicians, and *all* the hospital personnel. In such a mechanism it is inevitable that there will always be some margin of intended and unintended misuse. It cannot be expected that there can be a total elimination of the cheat, "chiseler," or the inept. However, the Commission clearly finds that in Maryland what is "wrong" is rather low and what is "right" is very high. It should be so, for life itself is involved.

   b. A sound solution to the problem of hospital costs does not lie in restricting the proper use of general hospitals. Any serious effort to interfere with the public's access to hospital care by restricting the *supply* of facilities will probably not be accepted in this era of high economic well-being. It could, if successful, be damaging to the health of the people of Maryland. As a related device designed to restrict *demand*, the use of "deductible" or coinsurance provisions has been advocated in some quarters. The evidence indicates that the case for that device is not at all persuasive.

   It is the Commission's opinion that the annual operating cost of all the general hospitals in the State is not of such a size as to warrant a policy of restrictive actions. Maryland's total annual hospital costs represent only 1½% of the disposable personal income of the State's population. The Commission notes that these total hospital expenses are substantially less than *each* of a number of optional expenditures which Marylanders already manage to finance with reasonable facility, such as automobiles, betting, gasoline, tobacco, and alcoholic beverages.

   The Commission finds that up until now, the devices of building other facilities (such as nursing homes or special-purpose facilities) to keep down the demands upon general, acute short-term hospitals, have not really reduced hospital costs. These facilities unquestionably improve health care available to the public, but they apparently do not reduce hospital costs.

8. *The Commission recommends that steps be taken which will avoid the inequitable burden imposed on many of the hospital users, for costs which should be spread over the entire community, thereby making it possible to substantially reduce the bills for those hospital users who are now paying more than their share.*

   Two situations outside the area of hospital costs and operations are now compounding the problems of rising costs. These two situations may be phrased as questions:

   a. "Who pays the bill for the patient who doesn't pay his own bill?"

b. "Who pays the costs for the more expensive hospital patient groups of the community, after the preferred risks represented by the active workers in the business community (including government) are siphoned off and covered at group insurance rates applicable only to them?"

The Commission finds that the size of these two burdens is now of major magnitude. The failure to meet these costs on an effective communitywide basis is a principal factor, from the individual citizen's viewpoint, in causing his own hospital bill to be higher than it would otherwise need to be. The very unevenness of the burden of hospital costs is itself a principal burden.

A preliminary clarification of the major factors involved is necessary.

a. As to "who pays the bill for the patient who doesn't pay?" several main facts stand out: (1) between 25% and 30% of the total hospital billings are not paid for by the patients receiving the hospital care. About half of that $31 million sum for 1962 was paid for by the State, Baltimore City and some counties out of their tax revenues (this includes the Certified Medically Indigent program and unpaid bills at the University and Baltimore City hospitals). The other half was absorbed by the other 42 nonprofit hospitals in the State; (2) bills are higher than patient-care costs alone would require, and they could be reduced substantially if all bills were paid; (3) neither commercial insurance companies nor Blue Cross purports to pay or contribute toward uncollected bills; (4) payments made by governmental bodies for the care of the indigent are less than cost; (5) voluntary nonprofit hospitals have no "profit" or other funds (except helpful but insufficient charitable contributions) to absorb the costs represented by these uncollected billings. Therefore, hospitals must set room and service *rates* to attempt to recoup some part of these unpaid costs. But Blue Cross does not pay hospitals at room and service rates. It pays *costs* (except when rates are lower than costs). The patient with commercial insurance pays what he receives from his insurance company and must pay the difference to the hospital out of his own funds. Frequently, he cannot pay this difference and this accounts in part for unpaid hospital bills. Under the State plan for the Certified Medically Indigent, payment in part is made on the basis of hospital *costs*, not *rates*. This results in further hospital deficits.

b. "Who pays the hospital costs for the more expensive group of the community?" One principal group among the more expensive are those people over 65 years of age. They need three times as much hospital care per person as the group under 65. They are hospitalized more often than the average and stay longer.

The preferred risks are the active business, industrial and government workers under 65 in the community. They are covered by commercial insurance carriers and by Blue Cross in employee groups.

The commercial insurance companies insure proportionately few over 65 years of age. Blue Cross is the chief insurer of this group, though at slightly higher rates than for the active workers under group contracts, because the majority of them are on an individual, direct-pay basis.

One striking example of the burden created by a "more expensive group" is illustrated by the effect on Blue Cross. The 65-and-over group paid Blue Cross in 1962 $4,300,000. Payments for hospital costs for this group were $7,200,000. The loss to Blue Cross for that year was $2,900,000. The *other subscribers* to Blue Cross helped to make up this extra burden.

Only one-third of Maryland's age 65-plus group has even this much protection.

9. *It is not proper to place the heavy burden of the hospital costs of that portion of the hospital users who do not pay their own proper proportionate shares onto the hospital users who do pay their own share. It is also wrong to place this cost burden on the hospitals. A proper allocation of these costs will reduce the costs to the patients who pay their own way, either directly or in part by insurance other than Blue Cross.*

Since (a) Blue Cross does not pretend to pay for the costs of serving other patients which the hospital must care for without reimbursement, (b) commercial insurance companies pay limited amounts regardless of how large the patient's bill may be or what a hospital's costs may be, and do not generally insure high-cost groups or pretend to pay for serving nonpaying patients, and (c) State and local governments do not pay full costs of caring for those indigents who are referred to the hospitals for treatment, it follows that the charges which hospitals make to other paying patients are definitely affected by the

fact that these three other groups contribute nothing toward the cost of caring for those other patients who cannot pay for their care. It also follows that if all groups did bear an appropriate share, the charges to this last group could be substantially reduced.

The heavy burden of unpaid hospital costs cannot be met primarily by the patient who is not insured (whether Blue Cross or otherwise) or by charity. It must be borne by *all* the community whether in the form of tax levies or by other equalization methods.

The inequitability of these burdens will increase as demands for public welfare increase and concomitantly the concept of hospital care as a "right" is accepted by public authorities.

The Commission recommends that a hard and realistic recognition be given to the truth that under today's expanded welfare concepts it is no longer reasonable to screen out certain large costs applicable to the community as a whole and assess them against only some of the hospital users instead of against all of them.

10. *Under Maryland's policy of preserving the system of voluntary hospitals, which the Commission recommends should be continued, practical solutions must be evolved for equitably spreading the cost of "Free Care" patients and other unpaid bills.*

If Maryland's hospitals were predominantly owned by State or local governments, the problem of spreading the unpaid-for costs would be soluble via the tax system. We do not recommend that solution. We believe the better and cheaper answer is to preserve the voluntary nonprofit hospital rather than to substitute the governmental hospitals. If the nonprofit hospitals are to be preserved, however, some other means must be found to spread these unpaid-for costs equitably. We suggest that the Council which is referred to in the next recommendation should probe much further into methods for solving or ameliorating the inequitable distribution of the hospital cost burden demonstrated here.

No simple solution is available. For example: ideas that have been advanced here or abroad of how to resolve it include universal and compulsory health insurance for all persons; programs to aid specific groups, such as the Federally sponsored "Medicare" proposals for the aged, whether financed and operated as part of the Social Security mechanism or as a part of the general "relief" mechanism; a tax upon all health insurance premiums so as to equalize the burden and provide funds to pay for the community load represented by those who cannot pay or pay in full; and a combination of indemnity insurance plus governmental contributions, which is the unique Australian National Health Scheme. All of these suggestions involve serious questions of public policy, including tax policy, and they also require a national approach.

Three ideas which would require local action only are these: First, a system of reimbursement by the State or the counties to the hospitals for "Free Care" costs and other unpaid hospital bills, with some form of control to prevent undue abuse. Second, an alteration of the standard formulae for computing the per diem reimbursable rate applicable to payments by Blue Cross under its contracts, and by the State and local governments for the "Certified Medically Indigent," so that the so-called "Free Care" costs (as defined under the present standard system of accounts) are included among the total expenses for the purposes of determining the per diem reimbursable rate. Third, alteration of the basis for the State, Baltimore City and County payments for the "Certified Medically Indigent" care so that costs of the current year, rather than the prior year, are used as the basis of computation of the per diem rate; payment should be made for the actual number of patient days of hospital care given to those served under the Certified Medically Indigent program; and provision should be made to enforce (through withholding means) the 20% payments which should be made by each political subdivision under the Certified Medically Indigent program, in those instances where full payment is not voluntarily made by the subdivision itself. This third suggestion would more equitably carry out the apparent intent of a program already in effect and we therefore recommend its adoption without waiting for any longer pull solutions.

The Commission makes no specific recommendations as to how the whole of this problem should be solved, for many factors are involved which are beyond the scope of its work.

11. *Provision should be made for the formation of an organization to accomplish the Commission's proposals, and to tackle the many in-*

dividual hospital matters which now find their way to a number of separate State agencies, separately appointed Commissions or committees, Legislative committees, or to the Governor.

We recommend the formation of an organization called by some name similar to Council for Hospital Affairs. Initially it should be established as a voluntary group, and if not effective in that form, it should be given statutory status. It should be intended as the major force in the organization of all hospital efforts in the State.

We recommend that maximum public support should be given to the Council so that its judgments and proposals may have adequate practical force. This support should take the form of cooperative action by all fund-raising bodies, plus a reexamination of licensing provisions and other governmental relationships, and adequate financial support, and such other steps as may prove to be desirable.

This commission should be made up of leading citizens from all parts of the State representing the general public, the Association of Commerce and other business groups, the Medical and Chirurgical Faculty, the Legislature, the Hospital Council of Maryland, the Maryland State Bar Association, organized labor, the State and City Health Departments, the Maryland Hospital Commission, the major organizations administering public welfare, and similar groups and organizations. It should be a strong committee made up of able persons interested in devoting their time, talents and ability to hospital planning and hospital problems.

It would be managed by a Board of Directors named in part by the Governor and in part by the above organizations, in a manner to provide the broadest responsible Statewide representation. There are several models for such a Council because a number of states and major cities have already experimented with them in various forms.

Such a commission would review plans of all hospitals and discourage construction or expansion not conforming to community needs; review plans and programs for the establishment of new hospitals, the expansion of existing ones, and make recommendations in the light of overall needs of an adequate hospital system; develop plans to assure the effective use of community funds by avoiding the unnecessary duplication of infrequently used or costly facilities; promote the coordination of services among hospitals and related health facilities, including nursing homes and chronic disease hospitals; recommend and encourage merger of hospitals or hospital services where feasible and in the overall community interest.

It would also foster the continuing task of achieving maximum economies in hospital operations by sponsoring investigative projects, assigning them to appropriate groups for execution and arranging for their financing when necessary; bring about better use of hospitals on the part of hospital staffs by encouraging a review of the medical records of all discharged patients by utilization committees, and by other means; study and recommend what, if any, measures shall be taken to equalize the burden of hospital care given to those who cannot pay but do not qualify for aid under the State's program for the medically indigent; make similar recommendations in respect to the group over 65 years of age.

Such a Council could bring about an evaluation of responsibilities as between the Department of Welfare, the State Health Department, the hospitals and the nursing homes. It should include in its recommendations State as well as voluntary facilities, proprietary hospitals and nursing homes. It could act as the focal point through which the public aspects of all hospital problems could be given well-rounded and capable consideration.

We recommend the formation of such a broad-based commission rather than having the Maryland Hospital Commission, recently created under the Hospital Construction Act, attempt to perform such duties. That statutory body was created primarily to receive applications for State loans for hospital construction; evaluate such loans in the light of the hospital's conditions and needs and make recommendations on the loan request to the State Board of Public Works. We believe the body we recommend could function much more freely and on a wider base, with broader objectives. If necessary, it should be imple-

mented after adequate study by statutory sanctions.

Properly conducted, it should fill the need which now exists for a body of broad scope to guide the orderly development and efficient operation of the hospitals of Maryland. It should become the keystone of the arch of the many governmental and voluntary bodies which necessarily must comprise our complex hospital system. It can show the way. The path is not easy, for much research and study, and implementation of courageous recommendations, are required.

ELEVEN MAJOR AREAS FOR COST REDUCTION EFFORTS

1. *Proper size of the personnel complement for various-sized hospitals, and elimination of the wage costs resulting from excess personnel, if any.*

   There seems to be a large differential in the number of employees between hospitals of about the same size.

2. *Operating Methods and Economies.*

   Much has been and is now being done to find economical ways of operating; even more should be attempted.

3. *Standards for the proper use of laboratory tests, X-rays, and other diagnostic tests, and elimination of the excess, if any.*

   This is involved in the art and techniques of medical practice, but physicians should give consideration as to what is the best practice in this area so that a sensible balance between patient care and cost is achieved.

4. *Reduction in the cost of physician work done in the hospital.*

   Adaptation to present-day conditions requires reconsideration of (a) relationships under which physicians can be compensated as employees of the hospital when they perform or supervise certain phases of patient-care work within the hospital, (b) relationships which should exist between the medical schools and the various individual hospitals of the State in respect to the use and further training of graduate students, and (c) methods which should produce less costly ways of administering equally good educational programs than the present ones.

5. *Transfer of nursing education to the educational system of the State.*

   Hospitals train the nurses, and after graduation a high percentage go to veterans' hospitals, industrial establishments, the Armed Forces, and other hospitals that have no nursing education program.

6. *Transfer of technician training to the educational system of the State.*

   The same considerations of practicality and public policy are involved as in the training of nurses.

7. *Reduction of beds assigned solely to pediatric cases, as feasible.*

   Medical advances now make this possible, and the construction of new bed capacity in this area should be reviewed.

8. *Unpaid-for costs of patients who do not or cannot pay in full.*

   These must be reduced or otherwise lifted from those who do pay their bills. It may no longer be reasonable to do otherwise. This is a question of community finance. One such load involves the indigent or the nonindigent in understandably straitened circumstances. Another is the over-65 group.

9. *Determination of what size is the minimum and what is the optimum size, for an efficient hospital, under today's conditions.*

   Such conclusions will help in the design of new or expansion of old hospitals. Mergers among the smaller hospitals may be induced thereby.

10. *Separation of patient-care costs from community costs.*

    "Readiness to serve" costs are a substantial part of total hospital costs. Like fire protection, such costs are not entirely to be considered as a cost of fighting a particular fire, or caring for a particular patient.

11. *Effective hospital utilization by the medical staff.*

    Search for methods to aid the medical staff in their own efforts to improve their methods and to improve hospital utilization should be pressed.

I

SUMMARY OF DETAILED FINDINGS

III. Operating Expenses—How and Why Did They Increase?

SUMMARY

1. *How did Expenses Increase?*

Operating Expenses increased from $41.2 millions in 1953 for 39 hospitals to $105.4 millions in 1962 for 44 hospitals; the 1962 expenses were 2½ times as much as in 1953. Two-thirds of the total increase was for salaries and wages and the other third was for all kinds of costs other than salaries and wages. The rate of increase in total operating expenses was six times the growth in the number of beds, four times the growth of inpatient admissions, and more than the growth of outpatient volumes. All types of hospitals were affected. Expressed in the form of a recognized unit measure, the inpatient costs per inpatient day for all hospitals combined rose from an average of $19.34 in 1953 to $35.10 in 1962, an increase of 82%.

2. *Why did Expenses Increase?*

Five developments are the principal causes of the sharp rise in aggregate hospital costs which took place over the past decade or so. These are:

a. The public increased its use of hospitals by much more than population growth alone would produce;

b. Present-day medical technology, while much more effective than formerly, requires more manpower per patient, more technically trained people, and more expensive equipment and drugs, than the technology of a decade ago;

c. Higher wage rates and shorter hours were needed to obtain and hold the type of personnel now required to operate a hospital, as well as to correct the previous too-low pay levels;

d. Inflation in the nation's price levels increased costs other than wages;

e. There has been an increasing need to replace obsolete or inadequate (but lower cost) facilities with more costly new or upgraded modern ones, plus the need to provide present-day standards of comfort in both new and old facilities.

All sizes and types of hospitals were affected by these forces.

By far the largest single cause was the effect of the change in wage rates and working hours which took place between 1953 and 1962. They seem adequately justified in the light of changes which took place in all other wage rates. Nevertheless, wage and hour adjustments accounted for $24 millions out of the total increase of $36 millions in that part of total wage costs which are devoted to inpatient care. The effect of that one item alone was equivalent to about $9.26 per inpatient day out of the total increase of $15.76 in costs per inpatient day which occurred between 1953 and 1962. This is more than all the other factors put together.

Comparison with experience elsewhere in the nation reveals that Maryland's overall hospital costs rose in almost the identical degree as for the country as a whole.

A division of total costs into what in approximate fashion may be termed "Hotel-like Costs" and "Patient-Care Costs" shows that (per inpatient day) the "Hotel-like Costs" (including meals) rose from $8.94 in 1953 to $14.14 in 1962, and "Patient-Care Costs" rose from $10.42 to $20.96. "Patient-Care Costs" rose twice as much as "Hotel-like Costs."

Neither measurements of significant details nor comparisons with experience elsewhere indicate that the bulk of the increases in Maryland's hospital costs could have been avoided in any significant degree under the methods of organization by which the hospitals were actually operated. But neither do these findings necessarily imply that hospital costs could not have risen less than they actually did, or could not be lower than they now are, if other methods of hospital organization or operation had been in effect.

IV. How did Operating Expenses compare with Income?

What balance was achieved between operating losses or gains and other income?

SUMMARY

In the aggregate, hospital operations were conducted at a loss. The largest losses were incurred by the four hospitals which conduct the major teaching programs or are governmentally operated (Johns Hopkins, University, Sinai and Baltimore City); University Hospital and Baltimore City Hospitals incurred losses of $6.8 millions which were absorbed by the State and City governments, and the other two institutions incurred operating losses of $2.2 millions which were partly met out of endowment income, charitable or other sources. The remaining 40 hospitals operated (in the aggregate) at a loss of about $.7 million, and they received help from gifts, grants, and other sources of enough to overcome the operating losses by a moderate margin. For this latter group the margins between Gross Income and Operating Expenses were quite narrow in all but a few of the individual hospitals; using aggregate figures the margin was 1%. It also appears to the Commission that provisions for depreciation expense are too low, and to this extent the actual losses may be larger than actually reported. It is reasonably clear that the voluntary nonprofit hospitals could not render their present services at present rates were it not for public contributions, charitable gifts, endowment incomes, or other sources of funds.

V. What are the facts about the size and utilization of hospitals in the State?

As a separate question, are there too many general hospital beds in Maryland?

SUMMARY

Maryland's general hospital facilities are fewer in relation to the population served, than elsewhere in this general section of the country or for the nation as a whole. Per thousand of population in 1962, the days of hospital care obtained were one-sixth less than elsewhere (827 days versus 999 days); the number of beds was only 2.9 versus 3.6; the number of admissions was only 101 versus 131. Reasons for this are not clear to the Commission. However, the characteristics of hospital usage after admission of the patient were reasonably similar: the average length of stay was about a half day longer than the national average (8.2 versus 7.6 days), but the "occupancy factor" (the proportion between the actual number of days a bed is occupied during a year, and the maximum number of days it could be occupied) was slightly better than the national average (79.5% versus 75.1%).

A higher caliber of hospital care for the State, than for the nation, should be expected from these two facts: Maryland's people are served in greater proportion with large hospitals and in lesser degree with small hospitals; and a greater proportion of its beds are in hospitals which are part of a university-medical school complex.

The more detailed facts (by type of case, by type of hospital, or by type of accommodation) show that there has not occurred any lengthening of the stay per patient nor any lessening in the intensity with which the facilities are used. While the days of hospital care per 1000 population rose 10% between 1953 and 1962, this was apparently due to a 12% rise in admissions and not to a longer stay per patient. Greater availability of hospital care to all segments of the people seems indicated by these facts, rather than any observable deterioration of medical or administrative methods for controlling the length of stay per case or a less intense use of the bed capacity.

As to the question "Are there too many general hospital beds in Maryland?" the Commission concludes that such bed capacity is probably too limited for the public good rather than too plentiful, except for pediatric beds. If available hospital beds are not now at the ideal number, it is more likely that they are short of what is required rather than in surplus supply. It notes that this conclusion, based upon detailed findings, also is in general agreement with the commonsense meaning of the fact that the present number of hospital beds per thousand of population could be increased 25% before reaching the national average or the average of the Atlantic Seaboard States.

The Commission also concludes from all these

facts about hospital usage that the large rise in hospital costs (1) was not due to excessive facilities, or to any lengthening of the patient's stay in the hospital, and (2) is traceable to causes that are far deeper and wider than Maryland's own practices—causes that are national in scope and not essentially local in nature.

One supplemental study shows that Saturday-Sunday occupancies decline 3% to 11%, with the average of over 6%; it also shows that substantial declines occur over holiday periods, particularly at the year-end. Another supplemental study deals with very long stay cases.

VI. What are the facts about the alleged "abuse of hospitals"?

SUMMARY

The expression "abuse of hospitals" apparently means widely differing things to different people. This includes dissatisfaction with or misunderstanding of such matters as: insurance policy and Blue Cross policy terms, hospital billing practices, charges by physicians or hospitals in excess of Blue Cross-Blue Shield coverages, room rates at hospitals when in excess of motel rates. The term also has different meanings to others: work done in a hospital which could have been done in a doctor's own office, particularly X-ray and laboratory tests; a too liberal use of X-rays, laboratory determinations, and tests of various kinds when diagnosing or treating patients; and the admission of patients into a hospital that results in bills submitted to Blue Cross for payment, when the terms of the Blue Cross policy are intended not to cover such work—admission for diagnostic purposes in some circumstances, or pre-existing illnesses, being examples.

The Commission concluded that some of these concepts relate to the problems of who pays, or to whom payment is made, or to payments considered to be excessive. However significant they are for other purposes, they do not relate to whether a patient should have been admitted, or what was done for him after admission, whether he stayed too long, or similar aspects of patient treatment. The Commission evolved this definition as expressing the meaning of "abuse" of hospitals:

> "In the light of *all* the circumstances of the patient's case: was there a clearly unnecessary use of the hospital, or were clearly unnecessary procedures or unjustifiable tests performed on the patient, or was the length of stay clearly too long?"

To ascertain a maximum feasible measure of the facts the Commission caused an examination to be made of the medical record for every patient who was hospitalized in every one of the 44 general hospitals in the State, as of a given day (March 12, 1963), in a manner intended to produce an objectively determined body of evidence. On the day selected there were 7,809 patients other than newborns, premature births, and psychiatric cases; these 7,809 represented an occupancy factor of 86% of the available beds. The medical records were examined independently by two reviewing physicians who were not connected with the hospital in which the patient was treated, and some of the cases were re-examined by special panels of physicians. From all these reviews, the principal findings were:

1. In only .6% of the cases did the two reviewing doctors agree that the admission could be medically questioned.

2. In an additional 4.8% of the cases one, but not the other, of the two reviewing doctors found cause to medically question the hospitalization.

3. The reviewing physicians could give no consideration or weight to home conditions or other social and nonmedical circumstances, and if weight is given to these factors, which must also influence both the admission and the time of discharge of the patient, a lower level of figures would be a more accurate measure of the actual conditions.

4. There was another group of 5½% where there were some elements of doubt in varying degree as to whether the patient should have been admitted.

5. Admissions for primarily diagnostic purposes were judged to be 13.2% of the cases with another 3.4% of the cases termed "doubtful."

There are about 223,000 of those enrolled under Blue Cross whose contracts do cover admissions for diagnostic studies, and it is believed all (or nearly all) commercial carrier contracts provide similar coverage.

6. Needlessly prolonged hospitalization, insofar as medical reasons alone were involved, was found in 14% of the cases; excessive or unnecessary laboratory tests or procedures were

found in 6% of the total cases, and unnecessary procedures were found in 4% of the total cases.

In none of these findings was the reviewing physician given any evidence as to the nonmedical aspects of the patient, such as home conditions, personal complications and similar facts which may have influenced the original admitting physician in deciding whether or not to admit the patient. Much evidence was given to the Commission on the point that these nonmedical reasons often must be given compelling weight in the decision as to whether a patient must be admitted to the hospital, and often discharges from the hospital are delayed for nonmedical reasons such as an inability to have him accepted elsewhere as soon as medical reasons alone would otherwise permit the discharge.

In the area of corroborating evidence were: (1) the Maryland group of 7,809 patients was strikingly similar to a group of 26,305 patients in all of the hospitals in Michigan as to the characteristics of age, length of stay and type of patient; (2) the overall findings about inappropriateness of admitting the patient to the hospital are in the same general area as the findings made in two other states by different methods.

The Commission believes the various findings can be accepted as reasonable measures of actual conditions, provided no weight at all is given to the nonmedical reasons which also must influence both the admission of the patient and the time of his discharge. If weight is given to these nonmedical reasons, a lower level of figures for questioned admissions and lengths of stay would be more accurate measures of the actual conditions.

VII. What are the facts about hospital services not paid for?

Which groups pay less than the cost of service to them, and which pay more?

SUMMARY

1. The question of "who pays, and who doesn't pay?" has these approximate answers using 1962 as a basis:

a. Between 25% and 30% of the total hospital billings were not paid for by the patients receiving the hospital service. About half of this $31 million sum was paid for by the State, Baltimore City, and the counties out of their tax revenues (which includes the affairs of the University and Baltimore City Hospitals), and the other half was absorbed by the hospitals other than University or Baltimore City.

b. As to the other 42 hospitals which absorb one-half of the total unpaid billings: if "Free Work" is considered a pro rata burden of all who do pay hospital bills (including the State and local governments), and if every other patient's bill was paid for in full, then—

The Blue Cross organization should have paid about	$ .9 million *more*—about 2%
The State and local governments, under the "Certified Medically Indigent" plan, should have paid about	$2.7 millions *more*
All other private patients should have paid about	$ .7 million *less*

But, importantly, those non-Blue Cross patients who did pay their bills would collectively have had their bills reduced about $4 millions, and the present nonpayers would have paid the difference.

2. Groups who pay, or are paid for, but at considerably less than cost are:

a. *The older-aged people.* The group of 65 years and over require about three times as much hospitalization per person as do the people under 65 years of age. They must be hospitalized more often, and they stay longer. This same relationship is true elsewhere in the country as well.

b. *The indigent.* Using as a sample those treated under the State's "Certified Medically Indigent" plan, the following statistical profile resulted:

The Certified Medically Indigent obstetrical patient stays in the hospital almost exactly as long as the nonindigent.

The Certified Medically Indigent pediatric patient stays in the hospital half again as long as the nonindigent, and it is surmised that the reason is an inability of hospitals to discharge the children as soon as the nonmedical reasons alone would permit.

The other Certified Medically Indigent patients, who are most of the total volume, stay in the hospital half again as long as the nonindigent group (the sample averaged about 12½ days versus 8½ days, respectively). They are much more concentrated in the older ages (who

generally need to stay longer than the younger ages), and also in the longer-type illness, than the nonindigent group. In short, they are older and sicker when they reach the hospital, and the longer stay is probably attributable thereto.

A separate study of costs based on six selected hospitals in Baltimore and four selected county hospitals was made for the Commission. It indicates that for the average of the ten hospitals the cost per patient day for the indigent is about 3% above the cost for all patients. Accommodation costs are lower, but medical services are higher, apparently reflecting the older and sicker condition of the indigent.

VIII. What is the outlook for the more significant factors affecting costs, and what can be done to reduce costs?

SUMMARY

The outlook for the significant factors driving costs upward is as follows: (1) More than all other factors together in importance is the wage rate. If wage rates in industry, business, and government continue to increase, so will wage rates for hospital employees. We must assume that for the immediate future the wage rate developments in the country as a whole are more likely to drive hospital costs to higher levels, rather than reduce them. (2) We believe further advances in the medical art of diagnosis and cure can be expected, but we also believe their effects on costs per day or per illness are toward increase, not decrease. (3) We note a growing trend toward greatly expanded demands upon hospitals for added services, with rising costs as a consequence. In that connection we note a very substantial drop in the active general practitioners in Maryland from 56 per 100,000 population in 1949 to only 31 in 1963. (4) Replacement of old or obsolete facilities with modern ones will also increase costs.

Factors which are not expected to reduce or increase costs: (1) Research costs are not affecting hospital bills for patient care at the present time; (2) attempts to increase a full seven-day-a-week use of the hospitals should be encouraged, but we conclude that the habits and desires of patients will probably not change enough to bring about significant savings.

Cost reductions should be possible in these eleven areas: (1) the size of the personnel complement which is appropriate to various sizes of hospitals needs to be examined in depth and the excess, if any, eliminated; (2) the considerable efforts already being made to find more economical methods of operation should be continued and expanded; (3) physicians should evolve standards of good practice in respect to laboratory tests and X-rays so as to achieve the most sensible balance between good patient care and cost; (4) the manner in which the physician's work in the hospital is organized needs penetrating and well-rounded study; included therein should be the proper place for the graduate-study house staff, the teaching programs and relationships between medical schools and the individual hospitals, the use of paid physicians for full-time or part-time patient-care services, among others; (5) a substantial change is apparently needed in nursing education programs: a more uniform and if possible a better grade of training, and a revision in the design of the programs are desirable. Adoption of a two-year program should be considered. Nursing education should be transferred to the educational system of the State, under an appropriate cooperative arrangement, and cost of nurses' education should be lifted from the hospital patient; (6) training of technicians should also be transferred to the educational system; (7) reductions in the number of beds reserved for pediatric cases may now be feasible; (8) it may no longer be reasonable to expect that the costs of caring for those who cannot or do not pay their bills in full must be borne by those who do pay their bills. Approximately 25% to 30% of all hospital billings are not paid for by the patient, of which about half is recovered by the hospitals from the State and the local governments under the State's very helpful "Certified Medically Indigent" program, or is absorbed by the State and Baltimore City through the deficits of two large hospitals operated by them. The other half is a large sum which the remaining hospitals must absorb by adjusting their billings to the remaining patients. Some solution for this must be found in respect to these uncollected bills. More accounting information in this area is also needed; (9) it should be determined what is the minimum size for efficient operation, and what is the optimum size; mergers among the smaller institutions may need to be induced; (10) study should be given by an appropriate group to the wisdom of removing from hospital expenses, and transferring to community-wide costs, what may be termed "readiness to serve" expenses; like fire protection, the "readiness to serve" costs are not entirely to be con-

sidered as a cost of fighting a particular fire or caring for a particular patient; (11) physicians should continue the search for methods whereby a more effective utilization of the hospital can be developed, with a more efficient cost structure as one of the results.

IX. Public Policy

SUMMARY

Several matters of public policy are discussed:

1. *"Where are the brakes on cost?"*

There are no automatic or self-applying brakes, such as apply to ordinary commerce, or to publicly regulated enterprises. But that is not to say there are no brakes. They lie in the will to make the hospital mechanism work well in the public interest. As to that test, the evidence is that notwithstanding the higher costs, the public wants to make increasing use of the hospitals, rather than less.

2. *Should the public adopt methods to restrain the use of its general hospitals in order to hold down costs?*

(1) The notion of restricting the supply of hospital beds is not a sensible one and the Commission does not advocate it. (2) The theory that building other and less costly special-purpose facilities as a method for reducing the demands upon general hospitals and thereby holding down costs is not at all proven, and more experimentation in this area is required before a substantial outlay of funds is warranted. (3) The use of a deductible provision in Blue Cross policies has many advantages, but the disadvantages probably outweigh the proposal. There is much to say on either side of the question. The Commission concludes there is no clear superiority of the deductible or co-payment plan as a method of significantly affecting hospital costs, and suggests that the issue is one that may well be settled by the marketplace.

3. *Is a coordination of plans for hospital expansion desirable?*

Is a plan to avoid duplication of facilities and services desirable?

The Commission concludes that such coordination, and avoidance of duplication are quite desirable. It would be in the public interest to provide a planning agency for that purpose. It notes that much experimentation with hospital planning bodies has been done in other parts of the country. It suggests that the precise form, composition design, and functioning of the proposed planning should take into account the experience elsewhere; but it also concludes that the planning agency should be a voluntary project, cooperatively undertaken, broad in scope, and Statewide in its field of interest. The Commission recommends that the broad-based Council relating to all hospital matters, which it recommends be created, should devise and develop the planning agency here proposed as one of its functions.

4. *What is the balance between hospital service and hospital costs?*

This is probably the most fundamental of all the public policy questions to answer. The Commission observes that two powerful trends are moving at an accelerating pace: (1) the public is steadily increasing the use it is making of its hospitals, and a wider scope of services seems to be wanted (and probably *needed* as well), notwithstanding sharply rising costs; and (2) there is, and will be, a continued pressure to improve our health technology, to widen its application to more people, limited primarily only by the ability of our people to finance the improvements. "How much hospital service?" will be a continuing major factor in the question of "how much hospital cost?" The preface of the epochal Ray Lyman Wilbur report of 1932 suggests this has been the pattern for decades, and this Commission's findings thirty years later suggest it will be the pattern for some decades to come.

II

MARYLAND HOSPITAL COSTS IN PERSPECTIVE

1. *Hospital Costs have increased much more than other costs.*

Hospital costs have risen much more both nationally and in Maryland than other aspects of "Cost of Living," and more than "Medical Care Services" in the aggregate, including physicians' fees, as these items are measured by the U. S. Department of Labor.

U. S. Department of Labor Consumer Price Indices (1957-59 = 100)	*Index for 1953*	*Index for 1962*	*Increase*
Consumer Price Index	93.2	105.4	13%
Total Medical Care Service Index	83.9	114.2	36%
Physicians' Fees Index	84.5	111.9	32%
Hospital Room Rates Index	74.8	129.8	74%
Hospital Costs Per Day (Average)			
Maryland (Inpatient Costs per Inpatient Day)	$19.34	$35.10	82%
United States as a whole	$19.95	$36.83	85%

(U.S.A. figures are *Total* Costs per inpatient day. Figures exactly comparable to Maryland are not obtainable, but the *percentage* of increase is closely comparable. The Maryland figure for 1962 would be $39.39, if computed in the manner as for "United States as a whole.")

2. *Hospital and Physician rates in Maryland compare reasonably well with rest of country.*

For the "20 Large Cities in the United States," the U. S. Department of Labor figures show that for the beginning of 1962 the hospital room charges in more than half the cities were higher than Baltimore, and the charges for physicians' services were, except in one of their examples, near the lowest of the 20 cities:

	8 lower than Baltimore	10 higher than Baltimore	1 the same as Baltimore
Room Rates in Hospitals			
Pay Ward			
Semiprivate Room	7 "	12 "	
Private Room	6 "	13 "	
Physicians' Services			
Office Visit	6 "	13 "	
House Visit	1 "	18 "	
Obstetrical Care	13 "	6 "	
Appendectomy	1 "	17 "	1 "
Tonsillectomy	1 "	18 "	

While similar figures for various entire states are not available, the comparisons between the chief cities of those states are believed to reflect useful comparisons for the various areas of the country.

3. *Large proportion of Maryland's population uses some form of health insurance; and about 60% of the total hospital costs in Maryland during 1962 were financed through the health insurance mechanism.*

Several major facts, for purposes of perspective, are that:

a. For Maryland's 3,200,000 persons in 1962 and its approximately 850,000 families, there were 326,000 admissions to the 44 general hospitals under study, which is equivalent to about one in ten persons and one out of every two and one-half families. The total operating expenses of those hospitals were $105 millions in that year; this is equivalent, on the average, to about $33 per person and $124 per family.

b. Data developed by the Health Insurance Institute (of New York) * state that in 1962 about 2,133,000 Marylanders, or 2 out of 3, were covered by some degree of insurance against hospital expenses, either by commercial insurance companies or by Blue Cross-Blue Shield or similar medical plans. Duplications among persons protected by more than one kind of insurance or by more than one company were eliminated by the Institute from these numbers to the best extent possible.

c. From the same source* and from Blue Cross-Blue Shield, the payments in 1962 to or in behalf of Maryland hospital patients were about as follows:

	Total	*By Blue Cross-Blue Shield*	*By Commercial Insurance Companies*
For hospitalization expenses	$62.7 millions	$38.9 millions	$23.8 millions**
For private physicians' services	22.7 millions	10.7 millions	12.0 millions**
For "loss of income"	11.4 millions	—	11.4 millions**
	$96.8 millions	$49.6 millions	$47.2 millions

(** The allocations of the $47.2 millions total were obtained by calculation, but are considered usable approximations.)

Blue Cross payments in 1962 were equal to about five-eighths and the commercial insurers' payments about three-eighths of the $62.7 millions of hospital bills which Marylanders financed through these two insuring groups combined. Furthermore, this $62.7 millions represented about 60% of the total costs of $105 millions incurred by all the hospitals.

These measurements are approximate, rather than exact.

* "Health Insurance Data"—1963 Edition

4. *Competition between insurance concepts.*

Each of the two major sources of insurance protection, Blue Cross and commercial insurance, clearly provides for a large fraction of the total insurance protection against hospital bills. The competition between these nearly balanced insurers may well determine whether the former's philosophy of paying for the service rendered can eventually survive against the latter's principle of paying exactly defined dollar limits. The former's costs rise directly as hospital costs rise; the latter's costs do not rise above the specified limits regardless of the amount of the hospital bill. We believe that a thorough understanding of this point by all concerned is essential.

5. *Population Growth versus increase in hospital usage.*

The major facts about Maryland's 44 general, short-term, acute hospitals include these:

	1953	*1962*	*% Increase*
Population of the State	2,556,000	3,233,000	26%
Number of General Hospitals	39	44	13%
Number of Beds	7,161	9,224	29%
Number of Admissions	230,000	326,000	42%
Patient Days of Care Given to Inpatients	1,933,000	2,675,000	38%
Outpatient Visits, Excluding Accident Room or Emergency Visits, for a large sample of hospitals with comparable data	691,000	991,000	43%
Accident Room plus Emergency Visits for a large sample of hospitals with comparable data	293,000	470,000	61%

6. *The major facts about the size of total Operating Costs are these:*

a. *In total dollars*

	39 Hospitals with Comparable Data for Both 1953 and 1962		*All 44 Hospitals in 1962*
	1953	*1962*	
Wage Costs	$25.4 millions	$ 66.6 millions	$ 68.1 millions
Other Costs	15.8 millions	36.3 millions	37.3 millions
Total Costs	$41.2 millions	$102.9 millions	$105.4 millions

b. *Division of total Hospital Inpatient Costs per Inpatient Day into "Hotel-like" Costs and "Patient-Care" Costs.*

These are approximations, following a method developed by a New Jersey Commission, for which see pages 31 to 34 of the Study.

	1953	*1962*
"Hotel-Like" Costs, Including Meals	$ 8.94	$14.14
"Patient-Care" Costs	10.42	20.96
Total Costs per Inpatient Day	$19.36	$35.10

THE MATERIALS FOR THE STUDY

1. *Hospitals Covered*

The Maryland hospitals examined in this Study are all of the 41 hospitals in the State to which the terms "general," "short term," "acute illness" apply, plus 3 hospitals performing specialized phases of general hospital care (2 eye-ear-and-throat, and 1 children's hospital), or 44 hospitals in total. None are "proprietary" or private profit-making; none are Federal; none are nursing homes, mental hospitals, tubercular or similar specialized hospitals. The publicly owned hospitals included are University, Baltimore City, Prince George's, and Garrett County; the other 40 hospitals are of the "voluntary, nonprofit" type.

2. *Cost and Operational Data*

The Commission secured directly from these 44 general hospitals of Maryland a substantial amount of data pertaining to the costs of their operations, their receipts and their operating characteristics. It had available to it the audited financial reports certified by the public accounting firms employed by these hospitals in the regular conduct of their affairs. The Commission also had available to it supplementary information supplied by The Hospital Council of Maryland, Hospital Cost Analysis Services, Inc., the Maryland Medical Service ("Blue Cross" and "Blue Shield"), and the Maryland State Department of Health.

The Commission engaged the nationally known public accounting firm of Touche, Ross, Bailey & Smart to examine the various financial aspects of the statements and to pass judgment upon the quality of the figures used by the Commission in its deliberations. Touche, Ross, Bailey & Smart has formally expressed to the Commission its judgment that hospital accounting for costs and expenses is generally very good when contrasted with many other industry groups. While they also believe that some improvements should be made in certain details of income accounting in order to facilitate a matching of revenues and costs by patient groups or certain types of services, they have expressed the opinion that the cost data furnished to the Commission "provide a reasonable reflection of the trends in operating expenses and income of the Maryland short-stay general and special hospitals used in this report." The opinions, comments, and summary figures from this public accounting firm, but not all the detailed tabulations which they submitted, are included in the Statistical Supplement which is a part of the Commission's report; the suggested improvements for revenue accounting are included herein in the Supplemental Study section.

The same firm was also engaged to make a separate study to determine the extent to which the costs of inpatient care for those cared for under Maryland's "Inpatient Program" (hereinafter referred to as the "Certified Medically Indigent" group) differed from the costs of caring for other types of patients. The figures used by the Commission in respect to these several matters are those developed or certified by this firm.

3. *"Medical Audit" Data*

The record of every one of the approximately 7,800 patients hospitalized in all the general hospitals in the State on March 12, 1963, was examined on a basis which protected the privacy of the patients involved. The 7,800 patients represented an occupancy factor of all the available beds for that day of 86%. The examinations were made by nearly 600 physicians on a volunteer basis under the auspices of the Medical and Chirurgical Faculty of Maryland with the extensive cooperation of every hospital. The procedures, carefully devised by the Commission (with the assistance of John A. Donaho and Associates, Inc.), in cooperation with the Faculty so as to obtain maximum objectivity, and the secondary reviews which were made of the detailed results, are set forth more fully on pages 54 to 64. The Medical and Chirurgical Faculty formally expressed to the Commission that "To the best knowledge of the Executive Committee, representing the Faculty, the survey was conducted on a completely objective basis, and the results would, therefore, be objective and without bias."

4. *Other Material*

Several other states had already made careful studies of the same problems with which this Commission was charged; major among them are those by the New Jersey, Northeast Ohio, Michigan, Minnesota and New York Commissions. Additional noteworthy studies include those by (or under auspices of) Michigan Hospital Service, Columbia University School of Public Health and Administrative Medicine, and qualified researchers connected with University of Chicago, University of Michigan, Duke University, American Hospital Association, U. S. Public Health Service, and others. The findings of these studies impressed the Commission as being applicable to Maryland's own problems as well, and the limita-

tions of its time (as well as the attempt to do its work in an economical manner) prompted the Commission to augment and illuminate its own findings through the careful work done in other parts of the country.

Statistics developed by the Bureau of Census, Department of Labor, U. S. Public Health Service, Health Insurance Institute of New York, Blue Cross-Blue Shield organizations, Maryland Department of Employment Security for Insured Employment, Maryland Department of Health, and by the American Hospital Association as presented in its Journal, have also been utilized.

III. Operating Expenses—How and Why Did They Increase?

SUMMARY

1. *How did Expenses Increase?*

Operating Expenses increased from $41.2 millions in 1953 for 39 hospitals to $105.4 millions in 1962 for 44 hospitals; the 1962 expenses were 2½ times as much as in 1953. Two-thirds of the total increase was for salaries and wages and the other third was for all kinds of costs other than salaries and wages. The rate of increase in total operating expenses was six times the growth in the number of beds, four times the growth of inpatient admissions, and more than the growth of outpatient volumes. All types of hospitals were affected. Expressed in the form of a recognized unit measure, the inpatient costs per inpatient day for all hospitals combined rose from an average of $19.34 in 1953 to $35.10 in 1962, an increase of 82%.

2. *Why did Expenses Increase?*

Five developments are the principal causes of the sharp rise in aggregate hospital costs which took place over the past decade or so. These are:

a. The public increased its use of hospitals by much more than population growth alone would produce;

b. Present-day medical technology, while much more effective than formerly, requires more manpower per patient, more technically trained people, and more expensive equipment and drugs, than the technology of a decade ago;

c. Higher wage rates and shorter hours were needed to obtain and hold the type of personnel now required to operate a hospital, as well as to correct the previous too-low pay levels;

d. Inflation in the nation's price levels increased costs other than wages;

e. There has been an increasing need to replace obsolete or inadequate (but lower cost) facilities with more costly new or upgraded modern ones, plus the need to provide present-day standards of comfort in both new and old facilities.

All sizes and types of hospitals were affected by these forces.

By far the largest single cause was the effect of the change in wage rates and working hours which took place between 1953 and 1962. They seem adequately justified in the light of changes which took place in all other wage rates. Nevertheless, wage and hour adjustments accounted for $24 millions out of the total increase of $36 millions in that part of total wage costs which are devoted to inpatient care. The effect of that one item alone was equivalent to about $9.26 per inpatient day out of the total increase of $15.76 in costs per inpatient day which occurred between 1953 and 1962. This is more than all other factors put together.

Comparison with experience elsewhere in the nation reveals that Maryland's overall hospital costs rose in almost the identical degree as for the country as a whole.

A division of total costs into what in approximate fashion may be termed "Hotel-like Costs" and "Patient-Care Costs" shows that (per inpatient day) the "Hotel-like Costs" (including meals) rose from $8.94 in 1953 to $14.14 in 1962, and "Patient-Care Costs" rose from $10.42 to $20.96. "Patient-Care Costs" rose twice as much as "Hotel-like Costs."

Neither measurements of significant details nor comparisons with experience elsewhere indicate that the bulk of the increases in Maryland's hospital costs could have been avoided in any significant degree under the methods of organization by which the hospitals actually operated. But neither do these findings necessarily imply that hospital costs could not have risen less than they actually did, or could not be lower than they now are, if other methods of hospital organization or operation had been in effect.

1. *How did Expenses Increase?*

a. *Data Gathered as to Costs and Operations*

The Commission gathered data as to operating expenses and supporting operating information from 44 hospitals for the year 1962, and except from those not then in existence, for the years 1953 and 1958 as well. For 39 of these 44 hospitals it was possible to obtain comparable information for each of the three years. Since these 39 hospitals represent approximately 98% of the total expenses for the entire group of 44, the 39-hospital group has been used as a basis for those findings which required detailed analyses over a span of years. Included in the Commission's figures are the expenses of University Hospital and Baltimore City Hospitals, and hence the Commission believes that its findings are based upon the most complete data available. The material has been compiled according to the following empirically defined groups of hospitals:

3 Large Teaching Hospitals—(Johns Hopkins, Sinai, University)

8 Large City Hospitals—(Bon Secours, Maryland General, Church Home, Baltimore City, St. Joseph's, St. Agnes, Mercy, Union Memorial)

6 Small City Hospitals—(Franklin Square, Women's, Lutheran, Provident, North Charles, South Baltimore)

7 Large County Hospitals—(Anne Arundel, Cumberland Memorial, Prince George's, Peninsula, Suburban, Washington Sanitarium, Washington County)

17 Small County Hospitals—(Calvert County, Cambridge, Carroll County, Frederick, Garrett County, Harford, Kent and Queen Anne's, Eugene Leland, Laurel, Edward W. McCready, Easton, Miners, Montgomery, Physicians, Sacred Heart, St. Mary's, Union of Cecil County. Twelve of these seventeen are included in the 39-hospital group.)

3 Hospitals performing specialized phases of general hospital care (hereinafter called "special hospitals")—(Baltimore Eye, Ear and Throat, Presbyterian Eye, Ear and Throat, Children's Hospital)

b. *Amount of Operating Expenses*

Aggregate operating expenses including depreciation and interest were as follows:

	The Same 39 Hospitals	Total of all Hospitals in Each Year
1953	$ 41.2 millions	$ 41.2 millions (39 Hospitals)
1958	69.1 millions	69.2 millions (40 Hospitals)
1962	102.9 millions	105.4 millions (44 Hospitals)

c. *Major Components of Operating Expenses*

Hospital costs consist, in approximate proportion, of $2.00 for salaries and wages for each $1.00 of all other items of expense. For the same 39 hospitals the pattern for these two broad groups of expenses between 1953 and 1962 was as follows:

The Same 39 Hospitals

Total Expenses, both Outpatient and Inpatient

	1953	*1962*	*Increase*
Salaries and Wages	$25.4 millions	$ 66.6 millions	$41.2 millions
All Other Expenses	15.8 millions	36.3 millions	20.5 millions
Total	$41.2 millions	$102.9 millions	$61.7 millions

It may therefore be observed that (a) the total operating expenses in 1962 were 2½ times as much as in 1953. This was much larger than the increase in the number of beds, the number of admissions, patient days, the outpatient visits or the accident room and emergency visits, and (b) two-thirds of the increase in total operating expenses was in the category of wages and salaries; the remaining one-third was in the category of "All Other Expenses." It may also be noted that the increase in costs as well as in hospitalization services rendered differed according to the various groups of hospitals as follows:

The Same 39 Hospitals in 1953 and 1962

	Increase in Total Dollar Costs	*Increases In*			
		Beds	*Inpatient Admissions*	*Outpatient Visits*	*Accident and Emergency Visits*
3 Teaching Hospitals	126%	23%	27%	19%	56%
8 Large City Hospitals	177%	25%	34%	107%	67%
6 Small City Hospitals	120%	4%	15%	13%	25%
7 Large County Hospitals	179%	44%	67%	56%	77%
12 Small County Hospitals	144%	23%	34%	328%	156%
3 Special Hospitals	139%	0	23%		
39 Hospitals—Total	150%	24%	37%	43%	61%

d. *Inpatient and Outpatient Costs*

Allocations of total operating expenses between outpatient operations and inpatient operations are not to be regarded as precise measurements, particularly in the earlier years, but on an approximate basis (as developed by Touche, Ross, Bailey & Smart) the size of each of these two operations was as follows:

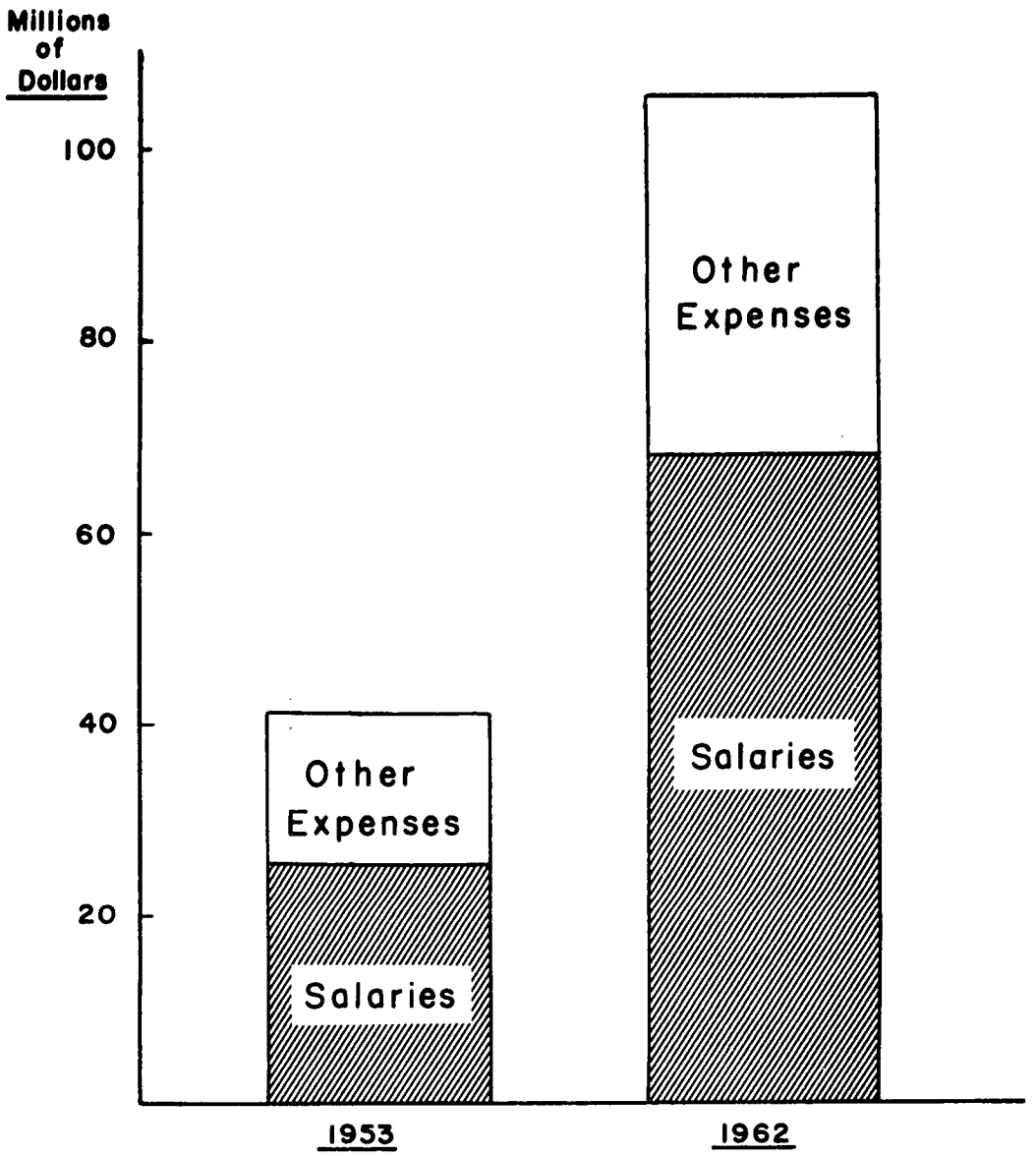
The Same 39 Hospitals

	1953	*1962*	
Inpatient Operations			
Salaries and Wages	$22.9 millions	$ 59.2 millions	
Other Costs	14.5 millions	32.4 millions	
Total	$37.4 millions	$ 91.6 millions	145% Increase
Outpatient Operations (i.e., "Other Than Inpatient Operations")			
Salaries and Wages	$ 2.5 millions	$ 7.4 millions	
Other Costs	1.3 millions	3.9 millions	
Total	$ 3.8 millions	$ 11.3 millions	197% Increase
Total Operating Expenses	$41.2 millions	$102.9 millions	150% Increase

e. *Inpatient Costs, per unit*

No reasonably satisfactory single unit for expressing outpatient costs is available. "Inpatient" operations are customarily expressed as a "Cost per Inpatient Day." Although the content of a

Operating Expenses of All General Hospitals in Maryland 1953 and 1962



% of Total	1953	1962
Salaries	61.5 %	64.6%
Other	38.5	35.4

"patient day" is by no means an unchanging standard from one decade to another, this customary measure produces the following results for all hospitals combined:

Inpatient Costs

1953 (39 Hospitals)	$19.34 per inpatient day
1962 (44 Hospitals)	35.10 per inpatient day
Increase	82%

These inpatient expenses per patient day varied as between the several groups of hospitals as follows:

The Same 39 Hospitals

	1953	*1958*	*1962*
3 Large Teaching Hospitals	$23.98	$34.04	$43.86
8 Large City Hospitals	17.49	25.16	35.16
6 Small City Hospitals	19.84	26.63	35.74
7 Large County Hospitals	17.78	24.95	30.93
12 Small County Hospitals	16.84	22.35	27.74
3 Special Hospitals	12.59	21.12	26.62
39 Hospitals—(Total inpatient costs divided by total inpatient days)	$19.34	$27.12	$35.35

(The difference in average daily costs between the same 39 hospitals and the 44-hospital total is less than 1%.)

The operating expenses per day for 1962 were approximately 82% above the corresponding expenses for 1953. The increase was substantially greater than other segments of medical care costs. This is also a nationwide condition which can be demonstrated from the United States Department of Labor—Consumer Price Indices (see "Maryland Hospital Costs in Perspective").

An exhibit which summarizes the data for operating expenses follows. (P. 23)

2. *Why did Expenses Increase?*

In the more detailed analysis of costs which follows, the Commission examines in some depth the causes of the increase in wages and salaries as well as changes in the number of people employed; it examines the principal causes of rising costs other than those attributable to wage rates; and it probes the principal operating areas in which the largest increases were incurred.

Comments and observations as to where reconsideration of operating methods might prove to be fruitful are dealt with in Section VIII.

a. *Wage and Salary Costs*

The total wages and salaries (both for inpatient and outpatient operations) included in the total hospital operating expenses rose from $25.4 millions in 1953 to $66.6 millions in 1962. The increase was $41.2 millions and represents two-thirds of the total increase in all operating hospital expenses which occurred between those years. The primary reason for the increase was the rise in rates of pay. Indeed the effect of higher pay rates along with the moderate effect of adopting a 40-hour week (from the previous 42-46-hour week) was two-thirds of the total increase in wages and salaries.

The second and third principal causes for the increase in wages and salaries were—in about equal degree—(a) the additional volume of inpatient days and outpatient work, i.e., the increase in hospital work done for people, and (b) the larger number of people required per patient because of the change in medical technology and practice during the decade under study.

(1) *Wage Rates*

It is common knowledge that wage rates in practically all fields of endeavor rose substantially during the past ten years. Wage rates in hospitals rose to a greater extent than wage rates as a whole primarily because the hospital levels of a decade ago were unduly low. Evidence on these points is as follows:

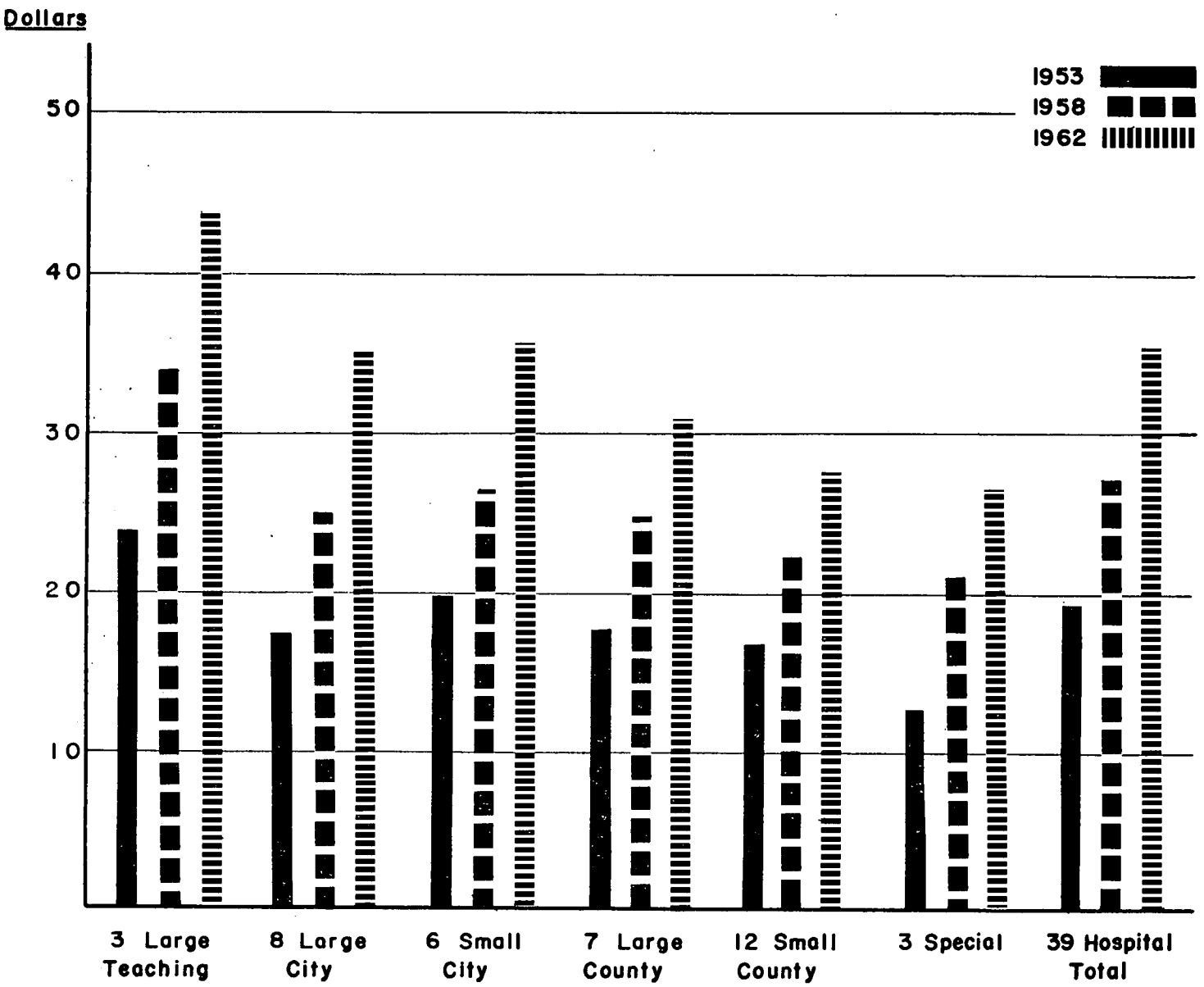
(a) In 1953, 17% of all full-time employees working in hospitals earned less than $25 a week, whereas today practically no full-time employee earns that little. In 1953, two-thirds of the full-time people working in hospitals earned less than $50 a week and 95% of them earned less than $75 a week. In 1962, approximately one-third earned less than $50 a week, although 70% of all employees still earned under $75 a week. In any event, there was a considerable shift from rather low full-time weekly earnings (under $50 a week) to the higher but still moderate bracket of $50-$100 per week.

(b) A comparison of a number of individual hospital jobs indicates that the pay ranges increased in the general order of 55% to 85% and for the most part these increases averaged within the 60-65% range.

(c) The average salaries for all full-time employees employed in the Maryland hospitals under study rose from $2,019 in 1953 to $3,272 in 1962, an increase of 62%. It should be noted in this connection (see P. 24) that average annual wages in all other areas of employment reported by the Maryland Department of Employment Security for Insured Employment also show substantial increases in wage rates, though by not quite as high a percentage as the foregoing findings for hospital employment alone. It is also true that the actual levels of annual pay in all other fields are still somewhat above those of the levels paid in hospitals:

1) The increase for manufacturing employ-

Inpatient Expenses Per Inpatient Day by Type of Hospital



MARYLAND HOSPITAL SURVEY

TOTAL OPERATING EXPENSES EXCLUDING DEPRECIATION AND INTEREST FOR SHORT-TERM GENERAL AND SPECIAL HOSPITALS IN MARYLAND

Type of Hospital	1953 Salaries	1953 Other	1953 Total	1958 Salaries	1958 Other	1958 Total	1962 Salaries	1962 Other	1962 Total
3 Large Teaching	$ 9,047,151	$ 4,511,685	$13,558,836	$14,980,097	$ 6,622,753	$21,602,850	$21,295,447	$ 9,596,549	$30,891,996
8 Large City	6,729,914	3,570,153	10,300,067	11,785,425	5,405,332	17,190,757	19,134,198	8,539,239	27,673,437
6 Small City	3,118,550	1,667,301	4,785,851	5,332,574	2,767,495	8,100,069	7,360,279	3,253,399	10,613,678
7 Large County	4,136,921	2,762,111	6,899,032	8,056,499	4,917,590	12,974,089	12,846,188	6,558,415	19,404,603
12 Small County	1,896,123	1,125,054	3,021,177	3,217,800	1,795,682	5,013,482	4,978,380	2,476,351	7,454,731
3 Special	433,653	271,006	704,659	727,927	357,304	1,085,231	1,043,610	571,014	1,614,624
Total 39 Hospitals With Comparable Data for 3 Years	$25,362,312	$13,907,310	$39,269,622	$44,100,322	$21,866,156	$65,966,478	$66,658,102	$30,994,967	$97,653,069
5 Small County Hospitals The Data From Which Are Not Complete For All 3 Years				85,761	40,785	126,546	1,449,073	818,566	2,267,639
Total 40 Hospitals In 1958 And 44 Hospitals In 1962				$44,186,083	$21,906,941	$66,093,024	$68,107,175	$31,813,533	$99,920,708

TOTAL OPERATING EXPENSES INCLUDING DEPRECIATION AND INTEREST FOR SHORT-TERM GENERAL AND SPECIAL HOSPITALS IN MARYLAND

Type of Hospital	1953 Salaries	1953 Other	1953 Total	1958 Salaries	1958 Other	1958 Total	1962 Salaries	1962 Other	1962 Total
3 Large Teaching	$ 9,047,151	$ 5,326,793	$14,373,944	$14,980,097	$ 7,906,566	$22,886,663	$21,295,447	$11,239,521	$32,534,968
8 Large City	6,729,914	3,910,187	10,640,101	11,785,425	6,012,246	17,797,671	19,134,198	10,370,008	29,504,206
6 Small City	3,118,550	1,860,106	4,978,656	5,332,574	3,024,096	8,356,670	7,360,279	3,583,717	10,943,996
7 Large County	4,136,921	3,168,518	7,305,439	8,056,499	5,543,427	13,599,926	12,846,188	7,524,861	20,371,049
12 Small County	1,896,123	1,330,733	3,226,856	3,217,800	2,107,408	5,325,208	4,978,380	2,894,072	7,872,452
3 Special	433,653	278,319	711,972	727,927	411,832	1,139,759	1,043,610	654,972	1,698,582
Total 39 Hospitals With Comparable Data For 3 Years	$25,362,312	$15,874,656	$41,236,968	$44,100,322	$25,005,575	$69,105,897	$66,658,102	$36,267,151	$102,925,253
5 Small County Hospitals The Data From Which Are Not Complete For All 3 Years				85,761	49,489	135,250	1,449,073	984,442	2,433,515
Total 40 Hospitals In 1958 And 44 Hospitals In 1962				$44,186,083	$25,055,064	$69,241,147	$68,107,175	$37,251,593	$105,358,768

MARYLAND HOSPITAL SURVEY

SALARY TRENDS 1953-1962 IN MARYLAND HOSPITALS AND COMPARISON OF HOSPITAL AND OTHER SALARIES

1. Maryland Hospital Salaries

(Average Salary Per Year, By Classifications, as Reported to Commission to Study Hospital Costs)

	36 Hospitals 1953	*41 Hospitals 1962*	*% Increase*
Administration Group	$2,516	$3,823	52%
Dietary Group	1,628	2,479	52%
Household Group	1,659	2,684	62%
General Professional Care Group	1,826	3,509	92%
Nursing Group	2,085	3,060	47%
Special Services Group	2,428	4,191	73%
Total Group	2,019	3,272	62%

2. Salary Levels in Maryland Hospitals, Compared With Other Salary Levels

a. **Other Salary Levels***

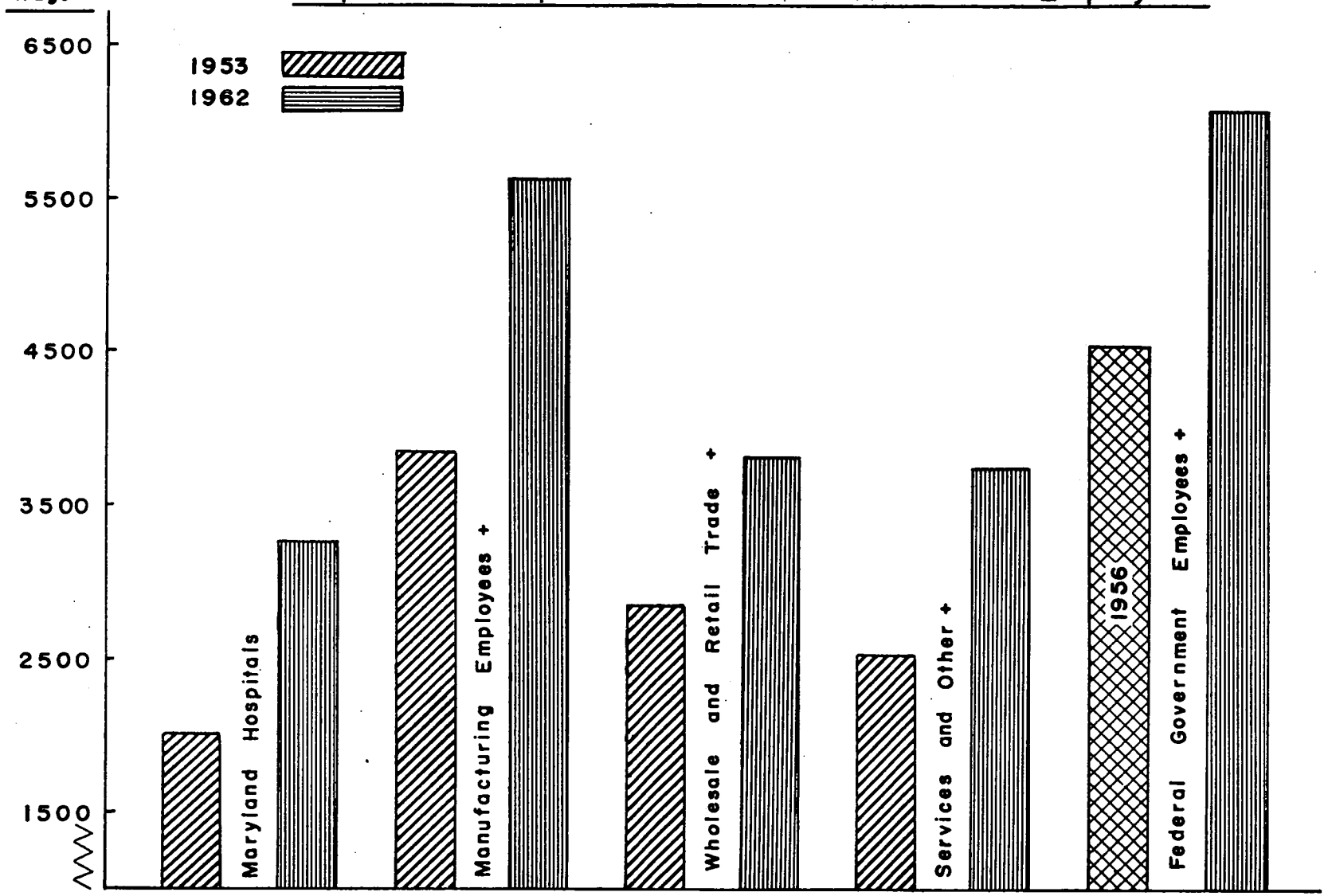
	1953	*1962*	*% Increase*
Manufacturing Employees	$3,854	$5,636	46%
Wholesale and Retail Trade	2,821	3,803	35%
Services and Other	2,535	3,754	48%
Federal Government Employees	4,562 (1956)	6,094	34% (since 1956)

b. **Average Salaries in Maryland Hospitals**

Total Group (see above)	2,019	3,272	62%

* ("Average Annual Wage" Reported by Maryland Department of Employment Security for Insured Employment.)

Salary Trends in Maryland
1953 - 1962
Hospitals Compared to Other Areas of Employment



+"Average Annual Wage" Reported by Maryland Department of Employment Security for Insured Employment.

ees from 1953 to 1962 was 46% in the average annual wage; 35% for the wholesale and retail trade; 48% for the service industries, and 34% for Federal Government employees, though the latter reflects the increase only since 1956 rather than since 1953. All these percentages are lower than the increases in the hospital area.

2) The overall average annual salary in hospitals for 1962 of $3,272 compared with higher levels in other areas, such as $5,636 for manufacturing employees, $3,803 for the wholesale and retail trade, $3,754 for the service industries, and $6,094 for Federal Government employees, as reported by the Maryland Department of Employment Security for Insured Employment.

(d) The rate of increase in average annual salaries for full-time employees was higher in the "Professional Care" group and in the "Special Services" group than it was for the other major groups of hospital employees. It is also true that the greater part of the increase in new personnel occurred in the technician, nursing, and "Special Services" groups where higher levels of pay are involved, and this too helped increase the average annual pay per employee.

(e) A lesser but nevertheless noticeable cause was the adjustment of the workweek to a 40-hour level. In 1953, the average workweek ranged between 42 and 46 hours depending upon the locality and the type of skill involved. As of now the 40-hour workweek is the standard. Even at minimum the transition from the longer to the shorter workweek involved a 5% increase: that is to say the transition from the 42 hours to 40 hours involved an increase of labor costs to approximately 5%, but since many hospitals were on workweeks up to 46 hours for some or all phases of their operations the actual increase was probably more than 5%.

The Commission concludes that the increase in hospital wage rates which took place is amply understandable both as to its need for attracting and keeping capable personnel and also as to its fairness in adjusting the pay for hospital skills more nearly to the levels for comparable skill obtainable outside the hospital field.

(Exhibits 11, 12, 13, 14, 15, 16, and 17 in the Statistical Supplement document these findings.)

(2) *Number of Employees*

(a) The total number of employees in the general hospitals of Maryland engaged in inpatient operations was over 11,000 in 1953 and over 18,000 in 1962. These numbers are close approximations but are not exact. Furthermore, they are stated on the basis of converting part-time employees to an equivalent number of full-time employees. Although the data are approximate—probably within 2%—their meaning is that the total number of inpatient employees rose by about 64% which was a larger increase than was warranted by the greater number of beds in service, or the growth in admissions, or patient days. These increased on the order of 29% for beds, 38% for patient days, and 42% for admissions over 1953. However, the principal cause of the increase apparently was the much greater amount of laboratory, X-ray, and other diagnostic applications, more complex treatments, and more advanced equipment or procedures which are now utilized in today's medical technology.

The Commission was able to make a detailed study based upon the employees devoted to inpatient work for a group of 38 hospitals in 1953 and 42 hospitals in 1962:

1) The total full-time employees devoted to inpatient work (with part-time employees stated at full-time equivalents) increased from 11,242 persons in 1953 to 18,426 persons in 1962. The increase in employees was therefore over 7,000 for this inpatient work.

2) Two useful measures as to employee utilization for inpatient work are the number of full-time employees per bed and also the number of full-time employees per 1,000 inpatient days. For Maryland hospitals the results were as follows:

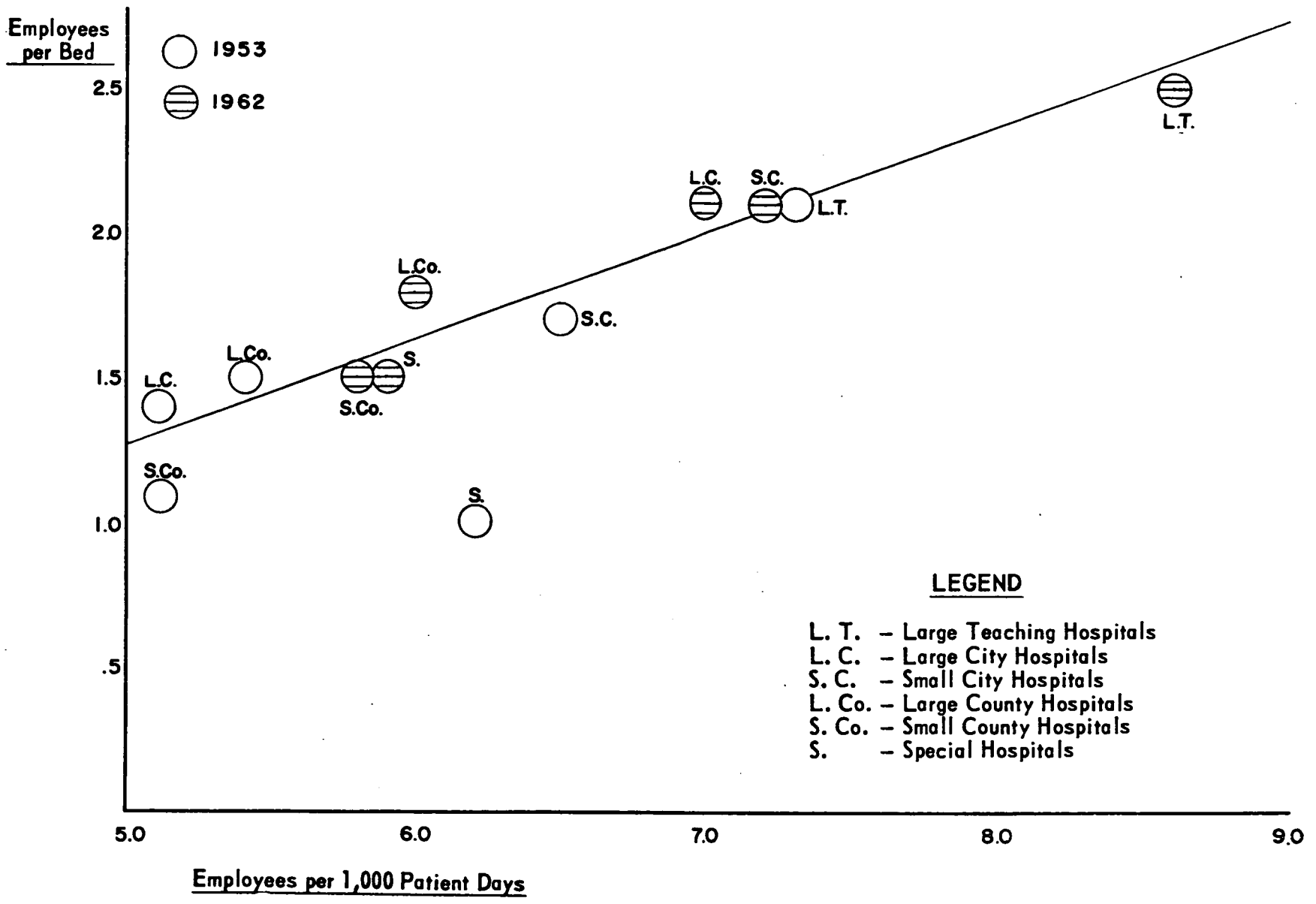
	1953	*1962*
Full-Time Employees per Bed	1.6	2.0
Full-Time Employees per 1,000 Inpatient Days	5.9	7.0

These ratios differ somewhat between the various classes of hospitals:

Full-Time Employees (or Equivalent) Engaged in Inpatient Work

	Employees per Bed		*Employees per 1,000 Patient Days*	
	1953	*1962*	*1953*	*1962*
3 Large Teaching Hospitals	2.1	2.5	7.3	8.6
8 Large City Hospitals	1.4	2.1	5.1	7.0
6 Small City Hospitals	1.7	2.1	6.5	7.2
7 Large County Hospitals	1.5	1.8	5.4	6.0
12 Small County Hospitals	1.1	1.5	5.1	5.8
3 Special Hospitals	1.0	1.5	6.2	5.9
Totals	1.6	2.0	5.9	7.0

Employees Per Bed, and Per 1,000 Patient Days 1953 and 1962



(b) An analysis presented in a later part of this Study indicates that the increase in the number of inpatient employees was almost wholly centered in that phase of hospital operations which might be called the Patient-Care segment rather than in that area which deals with the administration, the dietary, the household and the maintenance operations which elsewhere are called "Hotel-like" operations. In the latter category the employees per 1,000 patient days rose only from 2.17 to 2.27 which was only a 5% increase and therefore was well within the effect of going from a 42-46-hour workweek to the present 40-hour week. Except for that shift of the standard workweek, hospitals in 1962 apparently did not utilize any more hours in relation to patient days than they did in 1953 for the "Hotel-like" or non-patient care operations. On the other hand, the personnel per 1,000 patient days in the Patient-Care category increased from 3.75 persons to 4.68 persons. This was an increase of 25%, of which only about one-fifth can be attributed to the changes in the length of the workweek.

Further investigations showed rather conclusively that this increase in the "Patient-Care" phase of its operations was related primarily to changes in the use of the hospital, and in medical technology, both diagnosis and treatment. The following are reasonably indicative of the changes that occurred:

	% Increase 1953 to 1962
Inpatient Days of Care	34%
Outpatient Visits Excluding Accident Room or Emergency Visits	43%
Accident Room and Emergency Visits	61%
Surgery Cases Performed	40%
All Operative Procedures	38%
Compare the above with the following:	
Electrocardiograms	127%
X-ray Examinations	119%
X-ray Films Taken	185%
Laboratory Determinations	175%

Beyond these changes, it should be observed that the medical profession has developed and now applies far more sophisticated and difficult procedures involving complicated equipment. They reflect the substantial advances made in the medical art over the past decade whereby more illnesses and defects can be remedied and lives prolonged or saved, than formerly. The following are among the more spectacular advances in diagnosis or treatment: the cobalt bomb procedures now available in three hospitals whereas none were available in 1953 (these were used over 25,000 times in 1962), artificial kidney procedures, open heart surgery, newborn exchange transfusions, the use of radioisotopes, and the injection of contrast material into the arterial and venous system so that X-ray techniques may outline the vessels.

Without being able to say whether the increases of about 25% in the full-time employees per patient day within the Patient-Care area are too high or moderate or even low, it is reasonably clear to the Commission that the increases have been due primarily to changes in the art of diagnosis, treatment, and patient care.

(3) *Approximate effect of each factor upon wage and salary costs*

An approximate measurement of the various forces which have increased salary and wage costs has been developed in an exhibit shown on page 30. It deals with the wage portion of the cost of inpatient operations for the same 39 hospitals, which rose from $22.9 millions in 1953 to $59.2 millions in 1962, an increase of $36.3 millions. The purpose of the calculations is to isolate the dollar costs which are applicable to each of the four "causes" of higher aggregate wage costs, namely (a) effect of going to a 40-hour week, (b) more patients to take care of, here termed "more inpatient days of care performed," (c) more personnel needed per inpatient day primarily because of the changes in medical technology, and (d) the effect of higher wage rates, which is the principal factor. Higher wage rates had two effects: not only did they increase the cost of the 1953 complement of employees, but they also increased the cost of personnel added after 1953 in order to cope with the shorter workweek, the added volume of patients, and the advance in technology. Hence, the first column shows the effect of each of the three reasons for adding to the personnel, calculated at 1953 wage levels; in essence, this is the amount by which wage costs would have increased if wage *rates* had remained unchanged. The second column shows the effect of the higher wage rates alone, subdivided according to the original size of personnel complement and each of the reasons for subsequently adding more personnel. The essential results are as follows:

	Approximate Cost at 1953 wage rates	*Approximate Effect of higher average wage rates*	*Total Effect in 1962*
Transition to 40-hour Week (figured at minimum, i.e., 5%)	$ 1.8 millions	$ 1.0 millions	$ 2.8 millions
More Inpatient Days of Care Performed	6.6 millions	3.9 millions	10.5 millions
More Personnel per Inpatient Day (considered to be entirely in the Patient-Care area of operations)	5.7 millions	3.5 millions	9.2 millions
Higher Pay Rates to 1953 Level of Employees		13.8 millions	13.8 millions
	$14.1 millions	$22.2 millions	$36.3 millions

(4) *Effect of wage rates and working hours alone*

It should be observed that 1962 costs were increased because of changes since 1953 in the hour-and-wage patterns by $22.2 plus $1.8 millions or $24 millions. This was two-thirds of the total increase in the wage and salary bill. It is equivalent to $9.26 per inpatient day—obviously the largest factor in the total $15.76 increase in the per day cost which took place between 1953 and 1962.

The other one-third of the increase since 1953 is attributable in nearly equal amounts to (1) more patient days of care performed, and (2) the need for more personnel per patient day, primarily in the direct Patient-Care phase.

Exhibits 10 and 18 in the Statistical Supplement document these findings.

b. *Costs Other Than Wages and Salaries*

The Commission did not develop detailed explanations for that one-third portion of total hospital expenses which consists of costs other than wages and salaries, for the reason that the primary causes are sufficiently clear (and many are within common knowledge) as to make detailed documentation unnecessary. The principal causes are fourfold:

(1) *Price level inflation,* which raised the prices of food, materials, medical supplies, and services just as much for hospitals as for every other segment of activity.

(2) *Greater volumes of medical supplies per patient,* whether for X-ray, laboratory, and other diagnostic procedures, or for the drugs, instruments, equipment, and devices involved in the more sophisticated treatments of illness. Emphasis on new drugs to combat a specific disease produced a specialization which increased both their variety and their cost.

(3) *Additions to and upgrading of older hospitals, or the substitution of new hospitals for old ones.* This process inevitably involves immediately higher operating expenses because modern facilities cost more than old or obsolete facilities do. The depreciation and interest costs thereon are obviously more than on the superseded facility, and so in many cases are the operating costs.

(4) *Public's desire for more comfortable and attractive* surroundings for the sick person. Extra costs were incurred for appearance, for comfort, for air conditioning and for similar amenities of comfortable living. These amenities are not essential to equally effective medical care of the sick, but it is understandable that the community should seek to obtain for its sick the comfort level which is in keeping with a rising standard of living, and which is available to them when they are not sick.

While detailed explanations were not obtained, the data developed on page 34 do indicate quite clearly the impact of these forces. Thus, the tremendous effect of changing medical technology and patient-care methods can be observed by examining these costs *other than wages and salaries* in this manner:

	Per Patient Day
In the Patient-Care area—the professional work, the nursing, the laboratory, X-ray and all other similar areas—these costs per patient day increased from $2.49 in 1953 to $4.90 in 1962, an increase of	$2.41 (97% increase)
In the "Hotel-like" area, the dietary costs actually declined slightly and the "household" costs increased somewhat, but together increased only	$ .77 (24% increase)
The impact of better surroundings, as well as of more modern and effective hospital facilities under today's price level, is only reflected in small part by the increase which has already taken place in the costs for interest and depreciation, which during the 1953-1962 period have already risen, per patient day, from $.91 to $1.83 or	$ .92 (100% increase)

c. *Evaluation of Operating Costs*

While the foregoing material has isolated and measured the amounts and causes of the large increase in expenses, the Commission also endeavored to compare Maryland's experience with the results elsewhere; for while such comparisons do not of themselves prove that a given level or a given increase in costs is warranted or appropriate, they do help to judge the quality of the analysis.

Two comparisons have been made:

(1) *A Comparison With Nationwide Results*

MARYLAND HOSPITAL SURVEY

CAUSES OF THE INCREASE IN PAYROLLS
(Based on Data for the Same 39 Hospitals)

1. Base data

(1) 1953: 11,242 Inpatient Employees; $22,945,000 Inpatient Payroll;
5.92 Inpatient Employees per 1,000 Inpatient Days; $2,041 Average Annual Pay
1962: 18,160 Inpatient Employees; $59,272,000 Inpatient Payroll;
7.01 Inpatient Employees per 1,000 Inpatient Days; $3,264 Average Annual Pay

(2) In 1962 there were 2,591,000 inpatient days. $3,264 is 60% over $2,041.
The workweek was 40 hours in 1962; it was no less than 42 hours in 1953.

(3) In 1953 Total Salaries were $25,362,000; of which $22,945,000 were for inpatient care.
1962 Total Salaries were $66,658,000; of which $59,272,000 were for inpatient care.
Increase in inpatient care Salaries was $36,327,000.

On Exhibit 11 the average annual wages are shown as $2,019 and $3,272 for the years 1953 and 1962, respectively, as contrasted with $2,041 and $3,264 shown herein for these years. The small differences are due to the number of hospitals used in each of the two studies.

2. Analyses

	Approximate Cost at 1953 Wage Rates	*Approximate Effect of Higher Wage Rates*	*Total Effect in 1962*
(a) Transition to the 40-hour workweek (minimum measure) 18,160 ÷ 105% = 17,295; Excess = 865 865 x 2,041 = $1,765,000; 60% thereof = $1,059,000	$ 1,765,000	$ 1,059,000	$ 2,824,000
(b) Effect of more inpatient days of care performed (at 1953 levels of personnel per inpatient day) 2,591,000 x 5.92 = 15,339 inpatient employees indicated for 1962 15,339 minus 11,242 = 4,097 extra inpatient employees needed 4,097 inpatient employees minus 40-hour workweek effect of 865 = 3,232 3,232 x 2,041 = $6,597,000; 60% thereof = $3,958,000	6,597,000	3,958,000	10,555,000
(c) Effect of more inpatient personnel per inpatient day 18,160 inpatient employees minus 15,339 indicated inpatient employees is 2,821 2,821 x 2,041 = $5,758,000; 60% thereof = $3,455,000	5,758,000	3,455,000	9,213,000
(d) Effect of higher pay rates to the 1953 level of inpatient employees $22,945,000 x 60% = $13,767,000	.....	13,767,000	13,767,000
TOTALS	$14,120,000	$22,239,000	$36,359,000

Actual Increase was (difference due to rounding).....$36,327,000

(NOTE: Effect of higher wage rates, plus effect of 40-hour workweek = $24,004,000 (or more), or about 66% of the total increase, and equal to $9.26 per inpatient day.)

Material already presented herein includes the following:

		1953	1962	% Increase
Maryland:	Inpatient Cost per Inpatient Day	$19.34	$35.10	82%
U. S. A.:	Total Hospital Costs per Inpatient Day*	19.95	36.83*	85%

(The U.S.A. figures cannot be compared directly with Maryland's (see note below), but the % increase is not appreciably affected thereby)

Inasmuch as Maryland's hospital beds are in larger institutions to a greater extent than the national average, and since per day costs are generally higher as the size of the hospital increases, the following comparison for 1962 is also in order:

1962
Operating Expenses for Various Sizes of Hospitals

	Maryland		*U.S.A.*
	Inpatient Costs per Inpatient Day	*Total Hospital Costs per Inpatient Day**	*Total Hospital Costs per Inpatient Day**
400 beds and over	$43.86	$52.46	$39.12
300 to 399 beds	33.76	37.42	38.85
200 to 299 beds	32.81	35.83	38.74
100 to 199 beds	31.80	34.14	35.55
50 to 99 beds	28.76	30.51	32.65
under 50 beds	30.03	34.54	30.93
weighted average of all beds	35.10	39.39	36.83

(2) *A Comparison With a New Jersey Study*

This Commission is indebted to a somewhat comparable body appointed in New Jersey for a unique and revealing method of analyzing increases in hospital costs which it made in 1960. While the analogies are not completely correct, the New Jersey Commission grouped all costs under two headings, namely "Hotel-like" costs, and Patient-Care costs. Under the former it placed the cost categories "Administrative," "Dietary," "Household," and under the latter it placed the categories "Nursing," "General Professional Care," and "Special Services." These two groups of costs were then stated in terms of "Cost per Patient Day." This Commission has made a similar analysis, although it has added to "Hotel-like" costs the items of interest and depreciation expense. The results, and the comparisons with New Jersey (which were made for 1953 and 1958) are shown in detail on page 34. The major comparisons are:

Inpatient Costs per Inpatient Day

	1953	*1958*	*1962*
"Hotel-like" costs per day			
Maryland*	$ 8.03	$ 9.90	$12.31
New Jersey	9.03	10.70	
Patient-Care costs per day			
Maryland	$10.42	$16.00	$20.96
New Jersey	12.44	17.73	
Total Costs per day (Excluding depreciation and interest)			
Maryland*	$18.45	$25.90	$33.27
New Jersey	21.47	28.43	

(* Maryland's figures exclude interest and depreciation in this tabulation so as to conform to the New Jersey method.)

Maryland's increase in total "Hotel-like" costs (including depreciation and interest) was 58% between 1953 and 1962. The total was $14.14, and included the cost of meals. Aside from their comparative value, the Commission has included these findings because of several comments it received from the public during its deliberations which suggested that hospital room rates should be compared with hotel or motel room rates. The comparison is not too apt, but the approximations shown here may be of some help to those who nevertheless wish to make such comparisons.

The similarity of experience and the closeness of results both in aggregate and detail are striking, and we think they are significant.

Conclusions as to Operating Expenses

1. The principal causes of the sharp rise in hospital operating costs lie essentially in five phenomena:

a. The public increased its use of hospitals by much more than population growth alone would produce;

b. Present-day medical technology, while much more effective than formerly, requires more manpower per patient, more technically trained people, and more expensive equipment and drugs, than the technology of a decade ago;

c. Higher wage rates and shorter hours were needed to obtain and hold the type of personnel now required to operate a hospital, as well as to correct the previous too-low pay levels;

d. Inflation in the nation's price levels increased costs other than wages;

e. There has been an increasing need to replace obsolete or inadequate (but lower cost) facilities with more costly new or upgraded modern ones, plus the need to provide present-day standards of comfort in both new and old facilities.

2. The rise in Maryland's hospital costs during the period of nearly a decade has been just about like that for the nation as a whole. Neither measurements of significant details, nor comparisons

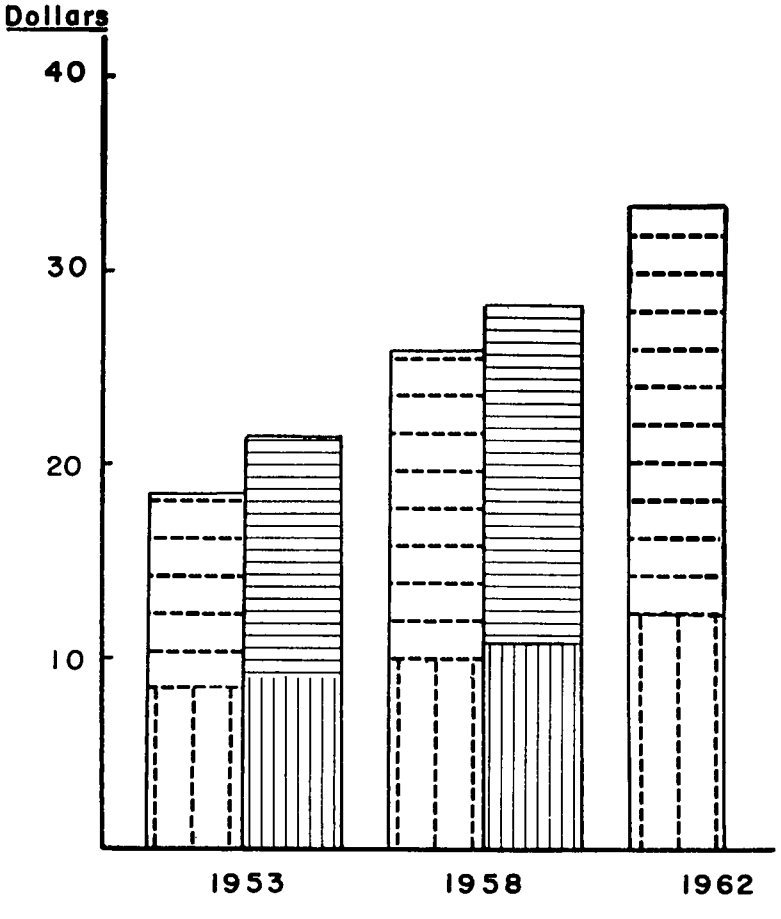
Footnote:
* "Inpatient Costs per Inpatient Day," which are used herein to measure Maryland operations, are not available for the United States as a whole. For the latter, only the "*Total* Costs per Inpatient Day" can be computed; this is the result of dividing both *Out*patient costs plus *In*patient costs by Inpatient Days alone; and it is not as meaningful a result because the proportion of outpatient work to inpatient work varies considerably as between hospitals. However, if Maryland's outpatient plus inpatient costs were also divided by inpatient days only, the weighted average cost per day would be $39.39.

"Hotel - like" Costs and "Patient Care" Costs

(Per Inpatient Day)

Maryland 1953-1958-1962

New Jersey 1953-1958



"Patient Care" Costs

"Hotel - like" Costs

MARYLAND HOSPITAL SURVEY
SUMMARY OF TOUCHE, ROSS, BAILEY & SMART DETAILED COST ANALYSIS OF THE HOSPITAL SAMPLE
1953

	Type of Hospital					
	*Total**	*Large Teaching*	*Large City*	*Small City*	*Large County*	*Small County*
1. Personnel per 1,000 Patient Days	Full-Time Inpatient Employees (including equivalent full-time temporary)					
Administrative	.47	.60	.32	.65	.44	.43
Dietary	.67	.79	.57	.73	.65	.69
Household	1.03	1.18	1.09	1.17	.81	.68
"Hotel-Like" Operations	2.17	2.57	1.98	2.55	1.90	1.80
General Professional Care	.62	.94	.67	.44	.41	.17
Nursing	2.24	2.41	1.95	2.78	2.00	2.50
Special Services	.89	1.38	.50	.75	1.04	.59
"Patient Care" Operations	3.75	4.73	3.12	3.97	3.45	3.26
TOTAL	5.92	7.30	5.10	6.52	5.35	5.06
2. Total Cost per Patient Day						
Administrative	$ 1.99	$ 2.91	$ 1.47	$ 2.10	$ 1.56	$ 1.76
Dietary	2.97	3.30	2.85	3.00	2.96	2.55
Household	3.07	3.20	3.60	2.99	2.51	2.22
Depreciation and Interest	.91	1.36	.56	.77	.98	1.08
"Hotel-Like" Costs	$ 8.94	$10.77	$ 8.48	$ 8.86	$ 8.01	$ 7.61
General Professional Care	$ 2.42	$ 3.17	$ 2.23	$ 2.64	$ 1.89	$ 1.93
Nursing	4.89	5.80	4.10	5.78	4.60	4.86
Special Services	3.11	4.24	2.67	2.56	3.16	2.44
"Patient Care" Costs	$10.42	$13.21	$ 9.00	$10.98	$ 9.65	$ 9.23
TOTAL	$19.36	$23.98	$17.48	$19.84	$17.66	$16.84

1962

3. Personnel per 1,000 Patient Days	Full-Time Inpatient Employees (including equivalent full-time temporary)					
Administrative	.60	.72	.59	.67	.53	.52
Dietary	.71	.81	.71	.80	.60	.69
Household	.96	1.10	.99	1.08	.81	.74
"Hotel-Like" Operations	2.27	2.63	2.29	2.55	1.94	1.95
General Professional Care	.73	1.20	.73	.65	.58	.25
Nursing	2.66	2.95	2.89	2.93	2.03	2.62
Special Services	1.29	1.83	1.05	1.08	1.42	.81
"Patient Care" Operations	4.68	5.98	4.67	4.66	4.03	3.68
TOTAL	6.95	8.61	6.96	7.21	5.97	5.63
4. Total Cost per Patient Day						
Administrative	$ 4.02	$ 5.65	$ 3.66	$ 4.15	$ 3.16	$ 3.36
Dietary	3.49	3.60	3.65	3.63	3.46	3.01
Household	4.80	6.06	4.94	4.49	4.27	3.50
Depreciation and Interest	1.83	2.23	2.22	1.09	1.47	1.58
"Hotel-Like" Costs	$14.14	$17.54	$14.47	$13.36	$12.36	$11.45
General Professional Care	$ 4.68	$ 5.81	$ 4.80	$ 6.43	$ 3.54	$ 3.04
Nursing	8.53	9.91	8.42	9.14	7.87	7.44
Special Services	7.75	10.60	7.47	6.81	7.16	5.72
"Patient Care" Costs	$20.96	$26.32	$20.69	$22.38	$18.57	$16.20
TOTAL	$35.10	$43.86	$35.16	$35.74	$30.93	$27.65

* Data for the Special Hospitals included herein are not shown separately in this exhibit.

MARYLAND HOSPITAL SURVEY

DIVISION OF TOTAL COSTS INTO "HOTEL-LIKE" AND "PATIENT CARE" COSTS

I. "Hotel-Like" Costs (an approximate term)

	1953			1958			1962		
	Personnel Per 1,000 Patient Days(a)	*Inpatient Salary Costs Per Patient Day*	*Total Costs Per Patient Day(b)*	*Personnel Per 1,000 Patient Days*	*Inpatient Salary Costs Per Patient Day*	*Total Costs Per Patient Day*	*Personnel Per 1,000 Patient Days(a)*	*Inpatient Salary Costs Per Patient Day*	*Total Costs Per Patient Day(b)*
Administration	.47	$ 1.20	$ 1.99	.54	$ 1.74	$ 2.99	.60	$ 2.30	$ 4.02
Dietary	.67	1.10	2.97	.70	1.36	3.24	.71	1.75	3.49
Household	1.03	1.72	3.07	1.00	2.06	3.67	.96	2.55	4.80
Depreciation and Interest			.91			1.23			1.83
TOTAL	2.17	$ 4.02	$ 8.94	2.24	$ 5.16	$11.13	2.27	$ 6.60	$14.14
% Increase, 1962 over 1953							5%	64%	58%
Inpatient Salary Costs per patient day increased (1962 over 1953)							$2.58	(64%)	
Non-Salary Costs (mainly food, materials, service) increased							1.70	(42%)	
Depreciation and interest charges increased							.92	(100%)	
							$5.20		

II. "Patient Care" Costs

General Professional Care	.62	$ 1.07	$ 2.42	.70	$ 1.71	$ 3.60	.73	$ 2.54	$ 4.68
Nursing	2.24	4.69	4.89	2.47	6.72	7.07	2.66	8.12	8.53
Special Services	.89	2.17	3.11	1.04	3.69	5.33	1.29	5.40	7.75
TOTAL	3.75	$ 7.93	$10.42	4.21	$12.12	$16.00	4.68	$16.06	$20.96
% Increase, 1962 over 1953							25%	102%	101%
Inpatient Salary Costs per patient day increased (1962 over 1953)							$8.13	(103%)	
Non-Salary Costs increased (chiefly material and laboratory supplies)							2.41	(98%)	
							$10.54		
III. Total Costs	5.92 person	$11.95	$19.36	6.45 person	$17.28	$27.13	6.95 person	$22.66	$35.10

(a) 90% of the total increase in the personnel required per 1,000 patient days occurred in the "Patient Care" category, and 10% of it occurred in the "Hotel-Like" category.

(b) 67% of the total increase in costs per patient day occurred in the "Patient Care" category and 33% of it occurred in the "Hotel-Like" category.

IV. Comparison with a similar study made in 1960 by a New Jersey Commission:

	1953			1958		
	Hotel-Like Costs	*Patient Care Costs*	*Total Costs*	*Hotel-Like Costs*	*Patient Care Costs*	*Total Costs*
New Jersey (Excludes Depreciation and Interest)						
Inpatient salary costs per patient day	$ 5.01	$ 8.95	$13.96	$ 6.26	$12.89	$19.15
Total costs per patient day	9.03	12.44	21.47	10.70	17.73	28.43
Maryland (Above costs excluding Depreciation and Interest)						
Inpatient salary costs per patient day	$ 4.02	$ 7.93	$11.95	$ 5.16	$12.12	$17.28
Total costs per patient day	8.03	10.42	18.45	9.90	16.00	25.90

with experience elsewhere indicate that the great bulk of the increases in Maryland's hospital costs could have been avoided in any significant degree, under the methods of organization by which they were actually operated.

3. There is no doubt that hospital costs could have been held down to a lower level by the elimination of many comfort factors, lowering of standards of care, though without endangering health, a slower rate for the adoption of costly new developments, etc. This, however, in the eyes of the Commission is neither realistic nor a helpful answer in the public interest, although it is a completely feasible course. We have therefore limited ourselves and the preceding conclusions to the standards of patient care, professional relationships, and methods of advancing the art of medical care which the nation as a whole, and Maryland with it, have pursued. They do not necessarily imply that hospital costs could not have risen to a lesser degree than they have, or could not be lower now than they are. The Commission is aware that costs could be lower under other standards of patient care or comfort, or perhaps even under the same standards of care and comfort but with other methods of hospital organization or operation. (See, for example, Section VIII.)

IV. How did Operating Expenses compare with Income?

What balance was achieved between operating losses or gains and other income?

SUMMARY

In the aggregate, hospital operations were conducted at a loss. The largest losses were incurred by the four hospitals which conduct the major teaching programs or are governmentally operated (Johns Hopkins, University, Sinai and Baltimore City); University Hospital and Baltimore City Hospitals incurred losses of $6.8 millions which were absorbed by the State and City governments, and the other two institutions incurred operating losses of $2.2 millions which were partly met out of endowment income, charitable or other sources. The remaining 40 hospitals operated (in the aggregate) at a loss of about $.7 million, and they received help from gifts, grants, and other sources of enough to overcome the operating losses by a moderate margin. For this latter group the margins between Gross Income and Operating Expenses were quite narrow in all but a few of the individual hospitals; using aggregate figures the margin was 1%. It also appears to the Commission that provisions for depreciation expense are too low, and to this extent the actual losses may be larger than actually reported. It is reasonably clear that the voluntary nonprofit hospitals could not render their present services at present rates were it not for public contributions, charitable gifts, endowment incomes, or other sources of funds.

1. *Material*

The Commission summarized the income accounts of the 44 general hospitals in the State. It asked each hospital to furnish the audited and certified statements for its normal fiscal year ending in 1962. These income statements do not cover precisely the same months in every case, because the fiscal years are not entirely uniform, and this procedure produces an aggregate of Operating Expenses which differ slightly from the sample of Operating Expenses which were subjected to detailed analysis in a preceding section of this Study. The difference is only 1%, and has no bearing upon the income accounts under analysis here.

It is also necessary to recognize a major difference in the financial backgrounds of the University and the Baltimore City hospitals in comparison with the others. In the case of University Hospital, their accounts do not include any compensation for services rendered to patients under the State's "Certified Medically Indigent" program; in the case of Baltimore City Hospitals, their accounts do not include that portion of "Certified Medically Indigent" compensation which is payable by the City itself. In consequence their Operating Losses are overstated in comparison with the results of the other 42 hospitals.

2. *Results*

In the aggregate the gross charges made by the hospitals for all their services were $115.5 millions. Of this sum they did not collect $21.2 millions, and their receipts were therefore $94.3 millions.

The combined operating expenses reported by these 44 hospitals were $104.0 millions. The Operating Loss, in the aggregate, was $9.7 millions.

A more useful subdivision of these aggregate results is as follows:

a. *University Hospital and Baltimore City Hospitals*

Gross Income (services rendered)	$12.8 millions
Uncollected	6.1 millions
Gross Income, less Uncollected	$ 6.7 millions
Operating Expenses	13.5 millions
Operating Loss	$–6.8 millions

The large amount of indigent work performed, for which full billings are not included under the governmental accounting procedures previously described, substantially affects the "Operating Loss."

b. *Johns Hopkins Hospital and Sinai Hospital*

These two are grouped together because they are very large "teaching" hospitals, and because their financial background is quite different (in degree, at least) from other hospitals.

Gross Income (services rendered)	$25.7 millions
Uncollected	5.3 millions
Gross Income, less Uncollected	$20.4 millions
Operating Expenses	22.6 millions
Operating Loss	$–2.2 millions

These two institutions have other sources of income or support. The operating losses were met mainly by (a) endowment income, (b) gifts and public contributions, (c) in the case of Sinai, by Associated Jewish Charities, and (d) depreciation expenses that could not in fact be set aside as they should have been, because of these operating losses. For these two hospitals together, the supplemental net nonoperating in-

comes fell short of the operating losses by about $1 million.

c. *The Other 40 Hospitals*

In the aggregate, their results for fiscal periods ending in 1962 were:

Gross Income (services rendered)	$77.0 millions
Uncollected	9.8 millions
Gross Income, less Uncollected	$67.2 millions
Operating Expenses	67.9 millions
Operating Loss	$– .7 million

In the aggregate, the operating loss was one percent of the amount collected for services rendered. In 27 out of the 40 cases, the operating gain or operating loss was within a margin of 5% of the gross income, and in 7 more they were within 8%. In five of the remaining cases there was an operating loss of greater proportions, and in one case there was an operating gain.

These operating losses were (in the aggregate) offset by nonoperating sources: appropriations in the case of two counties, endowment income in isolated instances, public or other charitable contributions, or grants. For the 40 hospitals the sum of all these nonoperating sources was $2 millions.

d. A general note needs to be added. To the extent that insufficient provision is currently being made for the annual cost of hospital equipment and buildings which are currently wearing out, then the actual operating losses are in reality greater than reported. Inadequate provisions for this cost prevent replacement of needed facilities when they wear out, become inadequate or obsolete, and increase the hospital's dependency on new grants or gifts for replacement purposes.

The aggregate provision for "depreciation expense" (as this cost is customarily termed) was on the order of $5 millions for 1962. The Commission is not able to estimate what amount would be adequate, but a $5 millions annual allowance seems quite low in view of present-day costs of equipment and present-day costs of replacement construction for a hospital plant of approximately 9,200 beds plus all of the related equipment.

3. A statement of the hospitals according to size and type is shown on the ensuing page. The three groupings above may be combined as follows:

1962 Results—In Millions of Dollars

	40 Hospitals	*Johns Hopkins and Sinai*	*Subtotal*	*University and Baltimore City*	*Total*
Gross Income	$77.0	$25.7	$102.7	$12.8	$115.5
Uncollected	9.8	5.3	15.1	6.1	21.2
Gross Income less Uncollected	$67.2	$20.4	$ 87.6	$ 6.7	$ 94.3
Operating Expenses	67.9	22.6	90.5	13.5	104.0
Operating Losses	$– .7	$–2.2	$– 2.9	$–6.8	$– 9.7
Other Income	2.0	1.2	3.2		
Balance of Operating Losses minus Other Income	$ 1.3	$–1.0	$ .3		

4. It is reasonably clear that the voluntary nonprofit hospitals of the State could not render their present services at present rates were it not for public contributions, charitable gifts, endowment incomes, or other sources of funds.

MARYLAND HOSPITAL SURVEY

INCOME ACCOUNTS FOR 42 GENERAL HOSPITALS IN MARYLAND, EXCLUDING UNIVERSITY HOSPITAL AND BALTIMORE CITY HOSPITALS*
1962

	*Total For All Hospitals Except University Hospital and Baltimore City Hospitals**	*2 Large Teaching Hosp. Excl. University Hospital*	*7 Large City Hospitals Excl. Baltimore City Hospitals*	*6 Small City Hospitals*	*7 Large County Hospitals*	*17 Small County Hospitals*	*3 Small Special Hospitals*
Gross Income	$102,731,010	$25,726,737	$28,959,638	$12,222,585	$22,748,805	$11,405,880	$1,667,365
Less: Allowances and Uncollected Income	15,090,849	5,336,757	4,506,119	1,638,100	2,322,237	1,118,441	169,195
Gross Income Less Allowances and Uncollected Income	87,640,161	20,389,980	24,453,519	10,584,485	20,426,568	10,287,439	1,498,170
Operating Expenses, Depreciation and Interest	90,542,356	22,618,940	24,450,009	10,905,892	20,376,778	10,462,155	1,728,582
Operating Income or (Loss)	(2,902,195)	(2,228,960)	3,510	(321,407)	49,790	(174,716)	(230,412)
Contributions	760,729	190,085	221,799	10,374	146,992	188,802	2,677
Endowments, Appropriations, Grants	2,485,452	1,894,615	.....	100,000	220,468	80,538	189,831
Other Income, Less Other Expense	(65,624)	(904,012)	257,169	237,055	160,230	86,055	97,879
Total Net Help from Sources Other Than Hospital Operations	3,180,557	1,180,688	478,968	347,429	527,690	355,395	290,387
Net Income or (Net Loss)	278,362	(1,048,272)	482,478	26,022	577,480	180,679	59,975
Significant Ratios:							
% of Allowances and Uncollected Income to Gross Income	14.7	20.7	15.6	13.4	10.2	9.8	10.1
% of Operating Income to Gross Income	(2.8)	(8.7)	.....	(2.6)	.2	(1.5)	(13.8)
% of Net Income to Gross Income	.3	(4.1)	1.7	.2	2.5	1.6	3.6

* The figures for 42 hospitals exclude University Hospital and Baltimore City Hospitals because for these Governmental institutions the "Gross Income" and hence the "Operating Loss" reported by these institutions (aggregating $3,899,103 and $2,898,645, respectively) are not strictly comparable to the corresponding figures for voluntary hospitals. In the case of University Hospital, for example, "Gross Income" does not include compensation for services to the "State Certified Indigent Program" patients. Figures taken from official reports supplied by these two hospitals for the Fiscal Year ended June 30, 1962 and the year ended December 31, 1962, respectively, are:

Gross Income	$12,816,589
Allowances and Uncollected Income	6,116,728
Gross Income less Allowances and Uncollected Income	6,699,861
Operating Expenses including Depreciation	13,497,609
Operating Income or (Loss)	(6,797,748)

V. What are the facts about the size and utilization of hospitals in the State?

As a separate question, are there too many general hospital beds in Maryland?

SUMMARY

Maryland's general hospital facilities are fewer in relation to the population served, than elsewhere in this general section of the country or for the nation as a whole. Per thousand of population in 1962 the days of hospital care obtained were one-sixth *less* than elsewhere (827 days versus 999 days); the number of beds was only 2.9 versus 3.6; the number of admissions was only 101 versus 131. Reasons for this are not clear to the Commission. However, the characteristics of hospital usage after admission of the patient were reasonably similar: the average length of stay was about a half day longer than the national average (8.2 versus 7.6 days), but the "occupancy factor" (the proportion between the actual number of days a bed is occupied during a year, and the maximum number of days it could be occupied) was slightly better than the national average (79.5% versus 75.1%).

A higher caliber of hospital care for the State, than for the average of the nation should be expected from these two facts: Maryland's people are served in greater proportion with large hospitals and in lesser degree with small hospitals; and a greater proportion of its beds are in hospitals which are part of a university-medical school complex.

The more detailed facts (by type of case, by type of hospital, or by type of accommodation) show that there has not occurred any lengthening of the stay per patient nor any lessening in the intensity with which the facilities are used. While the days of hospital care per 1,000 population rose 10% between 1953 and 1962, this was apparently due to a 12% rise in admissions and not to a longer stay per patient. Greater availability of hospital care to all segments of the people seems indicated by these facts, rather than any observable deterioration of medical or administrative methods for controlling the length of stay per case or a less intense use of the bed capacity.

As to the question "Are there too many general hospital beds in Maryland?" the Commission concludes that such bed capacity is probably too limited for the public good rather than too plentiful, except for pediatric beds. If available hospital beds are not now at the ideal number, it is more likely that they are short of what is required rather than in surplus supply. It notes that this conclusion, based upon detailed findings, also is in general agreement with the common-sense meaning of the fact that the present number of hospital beds per thousand of population could be increased 25% before reaching the national average or the average of the Atlantic Seaboard States.

The Commission also concludes from all these facts about hospital usage that the large rise in hospital costs (1) was not due to excessive facilities, or to any lengthening of the patient's stay in the hospital, and (2) is traceable to causes that are far deeper and wider than Maryland's own practices—causes that are national in scope and not essentially local in nature.

One supplemental study shows that Saturday-Sunday occupancies declinc 3% to 11%, with the average of over 6%; it also shows that substantial declines occur over holiday periods, particularly at the year-end. Another supplemental study deals with very long stay cases.

GENERAL HOSPITALS IN MARYLAND, 1962

	No. of Hospitals	*Bed Capacity*	*Patient Days*	*Personnel (Full-Time Equivalent)*
City				
Large Teaching Hospitals	3	2,131	620,244	5,338
Large City Hospitals	8	2,556	753,033	5,241
Small City Hospitals	6	956	282,092	2,034
Subtotal	17	5,643	1,655,369	12,613
County				
Large County Hospitals	7	2,010	609,962	3,639
Small County Hospitals	17	1,352	352,036	1,836
Subtotal	24	3,362	961,998	5,475
3 Specialized Hospitals included in Study	3	219	57,568	338
Total	44	9,224	2,674,935	18,426*

* Inaccuracy believed to be within a 1% - 2% range.

The 20 hospitals in Baltimore gave 1,712,937 patient days of care, and the 24 hospitals in the counties gave 961,998 patient days.

This means that in Baltimore, which has 30% of State population, 64% of all patient care in the State was given. Over half of the total patient care in the State was furnished by only eleven hospitals.

1. *Size of Maryland's General Hospital Facilities and the Degree to Which These Facilities are Used*

   a. *Hospital beds in relation to population*

Maryland has a *lesser* number of hospital beds in relation to the size of its population than is true for the nation as a whole or for the entire Atlantic Seaboard or for the group of South Atlantic States of which it is a part.

(There are 3.6 general hospital beds per thousand of population for the U.S.A. as a whole; there are 3.7 such beds along the Atlantic Seaboard; there are 3.3 such beds for the South Atlantic States as a group. *In Maryland there are only 2.9 such beds per thousand of population.*)

b. *More of the hospital beds are in larger institutions*

Maryland serves its people in greater proportions with larger hospitals and in lesser proportions with the smaller hospitals than is true for the U.S.A. as a whole. Furthermore, a greater proportion of its general hospital beds are in establishments which are part of a university-medical school complex. A higher caliber of hospital care in Maryland as a whole than the average for the nation should be expected from the presumably better equipped and more ably operated institutions which these two characteristics should produce.

Hospitals under 100 beds in size have 10% of the State's total bed capacity; for the U.S.A. as a whole, 23% of the bed capacity is in these very small hospitals. Hospitals with less than 200 beds represent 27% of the total bed capacity in the State whereas for the country as a whole this number is 45%.

In Maryland approximately 50% of the beds are in hospitals ranging between 200- and 400-bed capacity; for the country as a whole, only 31% of the bed capacity are in hospitals of this size.

Moreover, its two largest hospitals are part of a university-medical school combination, and these represent 18% of all the hospital beds in the State. For the nation as a whole, hospital beds which are part of a university-medical school combination represent only 10% of the total.

c. *Use of hospitals is less in Maryland than elsewhere*

Maryland's people apparently go to hospitals to a lesser degree per thousand of population than is true for the U.S.A. as a whole or for the Atlantic Seaboard or for the South Atlantic States.

Admissions per thousand of population in 1962 were 131 for the U.S.A. and they were 127 for each of the Atlantic Seaboard and the South Atlantic States. In Maryland this figure was only 101 per thousand of population.

The ratio is not a measure of whether hospital beds are used as fully in Maryland as elsewhere, nor is it a direct measure of whether there are enough beds for the population. Instead its significance is that fewer people per thousand of population go to hospitals in Maryland, or go less often.

It is not at all clear to the Commission why this is so.

It may be that more patients are treated outside of hospitals than elsewhere because there are more practicing physicians in Maryland (per thousand population) than elsewhere. Only nine other states (including D.C.) have more doctors per thousand than Maryland and three others have just as many, but the other 38 have less.

It may be due to a better-than-average condition of health, but the Commission has no evidence on that point.

It may be due to an inadequacy of beds or to a tighter local practice in admitting patients but, again, there is no direct evidence to that effect.

It does not seem to be due to the adjacency to Washington, or to any financial inability of the people to get hospital care. On the latter point, data published by Health Insurance Institute (New York) indicate that two-thirds of the State's people have some form of health insurance, which is about the average condition for the nation as a whole; and as to indigents, Maryland's Certified Medically Indigent program is one of the most liberal in the country. The Commission is not aware that there is any greater fraction of the people in Maryland who cannot obtain hospital care because of financial reasons than elsewhere.

There is the possibility that both beds and admissions per thousand of population are influenced by the fact that some of the Maryland population may be utilizing hospitals in the District of Columbia. The Commission does not believe this factor substantially alters the major conclusion that Maryland's beds and admissions are lower in relation to population than for the nation as a whole, however. At maximum, one might assume that *all* of the population in Prince George's and Montgomery Counties (the only two which adjoin Washington) utilized only the hospitals in the District of Columbia whenever they used hospitals outside their own counties. The ratio of beds per thousand of population would then still be only 3.2 compared to the national figure of 3.6 and

the admissions per thousand of population 110 compared to the nation's 131 per thousand of population. The assumptions underlying these latter figures are obviously too extreme and hence it would appear that the major conclusion referred to previously is a correct one, i.e., less hospital beds and less hospital admissions per thousand of population in Maryland than elsewhere.

2. *Hospital Usage, Length of Stay, Occupancy Factors*

a. *An overall measure*

The most significant single measure of hospital utilization by the population is the *days of care per thousand population.* For Maryland and for the nation in 1962:

Days of Hospital Care (Inpatient) per 1,000 Population

	1953	*1962*	*Increase*
Maryland	756 days	827 days	9.4%
United States, as a whole	904 days	999 days	10.5%

Maryland's use of hospitals was therefore one-sixth less, per thousand people, than for the nation as a whole.

After Marylanders enter hospitals, however, their practice in hospital usage is apparently quite like that for the country as a whole. There is nothing significantly different or unique in the way Maryland people use their general hospitals or in the length of time which Maryland physicians retain patients in the hospitals, or in the manner in which the hospitals are operated insofar as operating costs are concerned.

b. *Population, Beds and Admissions*

During the 1953-1962 period Maryland's population rose 26%, the admissions to hospitals rose 42%, and the significant ratio of "admissions per thousand of population" rose 12%.

For the nation as a whole the population rose 17%, admissions 34%, and admissions per thousand of population 15%.

The number of hospital beds available in general hospitals during the same period rose 29% in Maryland, and 24% for the U.S.A. as a whole.

Thus in relation to population growth, and to growth in admissions, *the bed capacity has risen to a somewhat lesser extent in Maryland than in the nation as a whole.*

	1953	*1962*	*Increase*
Beds per 1,000 Population			
Maryland	2.8	2.9	.1 bed
U.S.A.	3.4	3.6	.2 bed
Admissions per 1,000 Population			
Maryland	90	101	11 admissions
U.S.A.	114	131	17 admissions

The growth in hospital beds during this period was 20% in Baltimore City and 46% in the counties.

In the changes during the 1953-1962 period, the Maryland general hospital expansion and usage has been close to that in the nation as a whole, though on the underside of the national pattern.

3. *Length of Stay and Occupancy Factors*

The average length of stay for discharged patients is longer in Maryland by about ½ day than the national average.

(The average length of stay was 8.2 in Maryland and 7.6 days for the U.S.A. as a whole.)

The "Occupancy Factor" (the proportion between the actual occupancy, and the maximum time a bed could be occupied during the whole year) is slightly higher in Maryland as previously noted.

(The "Occupancy Factor" in Maryland is 79.5% and for the U.S.A. 75.1%.)

These two characteristics of a slightly longer average length of stay and a moderately higher "Occupancy Factor" are true for all but the very smallest sized group of hospitals under study. In Maryland the "Occupancy Factor" is higher for the several groups of hospitals of the middle range in size, i.e., 100-400 beds, and the "Occupancy Factor" is only fractionally different for the very largest and the very smallest sized group, as compared to the nation as a whole.

The trends over the last nine years are essentially the same in Maryland and for the U.S.A. as a whole. Where there is a difference in the trend the change is slightly in Maryland's favor. The main figures which demonstrate this trend are as follows:

	Maryland	*U.S.A.*
Occupancy Factor		
1953	74.0%	72.0%
1962	79.5%	75.1%
Improvement	5.5%	3.1%
Length of Stay		
1953	8.4 days	7.9 days
1962	8.2 days	7.6 days
Reduction	.2 days	.3 days

4. *Data taken from Blue Cross experience*

The same pattern regarding admissions, days of hospital care and length of stay can be taken from the experience of the Blue Cross Plans in Maryland and for the country as a whole.

Data From Blue Cross Plans
(Supplied by Maryland Hospital Service)

	Maryland Blue Cross Experience		*Countrywide Blue Cross Experience*	
	1953	*1962*	*1953*	*1962*
Hospital Admissions per 1,000 Subscribers	109	123	129	144
Days of Hospital Care per 1,000 Subscribers	788	979	934	1,126
Average Length of Stay in Days Covered by Blue Cross	7.24	7.97	7.30	7.85

5. *Conclusions as to Maryland versus the experience elsewhere*

The evidence indicates that (1) Marylanders used their hospitals less often, and obtained only five-sixths as many days of hospitalization as for the nation as a whole, (2) after they entered hospitals, the characteristics of usage were reasonably similar: length of their stay was slightly higher on the average (about half a day) but the "Occupancy Factor" of the available bed capacity was slightly better (i.e., higher).

The Commission therefore also concludes from these facts, along with the cost factors which were analyzed in depth, that the great increase in hospital costs was caused by factors affecting all hospitals of the nation, and not to factors pertaining to Maryland alone. Whatever produced the changes in these results over the past decade is traceable, we believe, to causes that are far deeper and wider than Maryland's own practices. The causes are national in scope rather than essentially local.

This conclusion can be illustrated by many other comparisons made elsewhere in this Study. It is also supported by the findings of careful studies into the hospital cost problem which have been made in other states of the country, among them, New Jersey, Northeast Ohio, Michigan, Minnesota and New York studies.

6. *Further Analysis as to Occupancy and Length of Stay in Maryland Hospitals*

a. Exhibits 8 and 9 of the Statistical Supplement present many data never before gathered for the Maryland hospitals in respect to the characteristics about length of stay and occupancy factors. These data show comparisons between 1953, 1958 and 1962 for a group of the same 32 general hospitals in the State; these 32 comprise 92% of all the patient days rendered in all of Maryland's 44 hospitals during 1962, and they apparently are typical of the entire 44.

It is the purpose of the analysis to indicate not only the length of stay according to the size of the hospital, but also as to type of accommodation (ward, semiprivate or private), and according to the three broad types of hospital case (medical-surgical, obstetrical and pediatric).

The major findings are that there has been a slight but steady downward drift between 1953 and 1962 in the average length of stay. Primarily the downward trend has been due to shortened stays for obstetrical and pediatric cases. The data also indicate that the "Occupancy Factor" has remained about the same for the large teaching hospitals as a group, but it has increased for each of the other size categories.

b. The average length of stay in 1953 was 8.7 days in the 32-hospital sample; in 1962 it was 8.4 days (practically identical with the entire 44-hospital average of 8.2). Decreases for the hospitals grouped by size and type between the two periods ranged generally between .2 of a day to .5 of a day, except for the small city hospitals (where the increase was .3 of a day) and in the three specialized hospitals included in the survey where for the group the decrease was quite substantial.

The figures indicate that the average length of stay for ward patients was decreased from 9.3 days in 1953 on the average to 8.4 days on the average in 1962. The lengths of stay for semiprivate patients and private did not change significantly between 1953 and 1962. "Average length of stay" figures can be distorted by individual cases of unusually long durations; and during the course of these studies cases were found involving more than five years of stay, and in one case, 25 years.

The average length of stay for medical and surgical patients was about the same in 1953 and 1962. However, the length of stay for obstetrical patients decreased about one-fifth, i.e., from 4.5 days per case to 3.7 days per case, and the Maryland average is now about one-fourth below the national average for obstetrical stays. Furthermore, the average length of stay for pediatric cases decreased about one-quarter, i.e., from 9.0 days to 6.6 days per case on the average. It is observed that the length of stay for obstetrical cases is about the same in each group of hospitals. For each type of medical and surgical case and also for pediatric cases, the length of stay is generally longer in the large hospitals and shorter in the smaller hospitals.

c. In the large teaching hospitals, the "Occupancy Factor" of beds had already reached a probable (or near) practical overall top of around 80% in 1953, and in 1962 was only frac-

MARYLAND HOSPITAL SURVEY

MARYLAND CHARACTERISTICS VERSUS NATIONAL CHARACTERISTICS

Three Significant Relationships	*Maryland*	*U.S.A.*
Beds Available per 1,000 population—1962	2.9	3.6
Admissions (inpatient) to Hospitals per 1,000 population—1962	101	131
Days of Hospital Care (inpatient) per 1,000 population—1962	827	999
Size of Hospitals—1962		
Beds in Hospitals of a size under 200 beds	27% of total beds	45% of total beds
from 200 to 399 beds	50% of total beds	31% of total beds
over 400 beds	23% of total beds	24% of total beds
Admissions into Hospitals with less than 200 beds	30% of total admissions	48% of total admissions

Comparative Figures	*1953*	*1962*	*Increase*
Population			
Maryland	2,556,000	3,233,000	26.5%
U. S. A.	159,035,000	185,822,000	16.8%
Beds			
Maryland	7,161	9,224	28.8%
U. S. A.	546,000	677,000	24.0%
Admissions			
Maryland	229,669	326,059	42.0%
U. S. A.	18,098,000	24,307,000	34.3%
Use of Beds (Occupancy Factor)			
Maryland	74.0%	79.5%	(Improvement)
U. S. A.	72.0%	75.1%	(Improvement)
Average Length of Stay			
Maryland	8.4 days	8.2 days	(Decrease)
U. S. A.	7.9 days	7.6 days	(Decrease)
Full-Time Personnel per 100 Average Daily Patients			
Maryland	216	254	17.6%
U. S. A.	183	237	29.5%

Source of data, as to figures for U. S. A.: Journal of American Hospital Association, August 1963.

MARYLAND HOSPITAL SURVEY
USAGE OF HOSPITAL BED FACILITIES

(Data for 32 hospitals from which data for all three years were available; they represent 92% of all the patient days for all the 44 general hospitals in the State in 1962)

	32 Hospitals with Comparable Data			*44 Hospitals in 1962*
	1953	*1958*	*1962*	
1. Average Length of Stay—by type of hospital				
Large Teaching Hospitals	11.0 days	10.6 days	10.7 days	10.7 days
Large City Hospitals	9.2	9.0	9.0	9.0
Small City Hospitals	7.4	7.5	7.7	7.7
Large County Hospitals	7.4	7.1	7.0	7.0
Small County Hospitals	6.7	6.6	6.2	6.8
Special Hospitals	15.8	11.3	8.9	6.4
All Hospitals	8.7 days	8.4 days	8.4 days	8.2 days
2. Average Length of Stay—by type of accommodation				
Ward Patients	9.3 days	8.6 days	8.4 days	
Semiprivate Patients	8.0	8.1	8.1	
Private Patients	9.4	8.9	9.4	
All Patients	8.7 days	8.4 days	8.4 days	8.2 days
3. Average Length of Stay—by type of case				
Medical and Surgical Patients	10.2 days	10.2 days	10.1 days	
Obstetrical Patients	4.5	3.9	3.7	
Pediatric Patients	9.0	7.9	6.6	
All Patients	8.7 days	8.4 days	8.4 days	8.2 days

In general: The length of stay for obstetrical cases is approximately the same in each type of hospital; the length of stay for medical and surgical cases, and also for the pediatric cases, is generally longer in the larger hospitals and shorter in the smaller ones. For 1962, for example, the figures are—

	Large Teaching	*Large City*	*Small City*	*Large County*	*Small County*	*Total*
Medical-Surgical	12.2 days	10.9	9.9	8.5	7.9	10.1 days
Pediatrics	15.2 days	8.2	5.8	4.3	3.3	6.6 days

4. Use of Beds ("Occupancy Factor")—by type of hospital				
Large Teaching Hospitals	80.0%	82.2%	79.7%	79.7%
Large City Hospitals	76.3%	83.3%	80.7%	80.7%
Small City Hospitals	69.5%	85.2%	80.8%	80.8%
Large County Hospitals	75.7%	84.1%	83.1%	83.1%
Small County Hospitals	59.7%	66.4%	66.1%	71.3%
Special Hospitals	60.5%	58.2%	75.3%	72.0%
All Hospitals	74.6%	81.6%	79.9%	79.5%
5. Use of Beds ("Occupancy Factor")—by type of medical service				
Medical or Surgical Beds	77.5%	85.1%	84.3%	
Obstetrical Beds	64.3%	70.8%	62.2%	
Pediatric Beds	67.5%	69.0%	66.5%	
All Beds	74.6%	81.6%	79.9%	79.5%

tionally under that figure. In each of the other sized groups of hospitals, however, the "Occupancy Factor" has improved substantially from the 1953 performance—in general the 1962 performance is up to the 80% level. Only the small county hospitals remain at "Occupancy Factors" which are under 80% (66% in 1962), and the small special hospitals are moderately under the 80% figure (75.3% in 1962).

Of distinct significance is the fact that the "Occupancy Factor" of medical and surgical beds was substantially higher than the beds for obstetrical and pediatric needs. This characteristic can be observed throughout the State and in each of the three years studied.

In the 1953-1962 period the medical and surgical beds were operated at 77.5% in 1953 and 84.3% in 1962. The obstetrical beds were operated at 64.3% in 1953 and 62.2% in 1962. The pediatric beds were operated at approximately 67.5% and 66.5% in 1953 and 1962, respectively. Thus it should be observed here that an average "Occupancy Factor" is really a composite of three broad and largely not-interchangeable groupings. This point will be analyzed further.

d. It is to be noted again that the larger the hospital the longer is the length of stay except in obstetrical cases. We believe this characteristic is probably related to the fact that the larger hospital serves more of the complicated medical and surgical cases than does the smaller hospital. We are not clear whether the difference in the magnitude of the teaching programs in large hospitals contributes to the same result, but it may well be a factor.

Conclusions as to Maryland's own trends

The more detailed study of the facts about length of stay and occupancy factors leads to a clear conclusion that despite a substantial increase in the financial ability of Maryland's population to obtain hospital treatment, whether through the great growth in Blue Cross coverage or commercial insurance coverage or because of the substantially greater availability of hospitals to low income or even indigent groups, *there has not occurred over the past decade any lengthening of the stay of the patient.* Indeed in the obstetrical and pediatric areas there has been notable lessening in the average length of stay during the same period. Nor do the facts suggest that there has been any lessening in the intensity with which facilities are used; indeed, there has been an increase in the "Occupancy Factor." As previously indicated there has been a rise of about 10% in patient days per 1,000 population between 1953 and 1962; this was caused by a rise in admissions (12%) (apparently reflecting the greater availability of hospital care to all segments of the population) rather than any deterioration of medical or administrative methods insofar as the length of stay per case is concerned.

(Exhibits 3, 4, 5, 6, 7, 8, 9, 26 and 28 in the Statistical Supplement further document these matters.)

7. *Are There Too Many General Hospital Beds and Facilities in Maryland?*

It is frequently alleged both nationally and in Maryland that there are too many hospitals or too many hospital beds or overlapping facilities and that the result thereof is an undue rise in operating costs per patient day. If there is a substantial unused capacity in the form of too many beds or too many hospitals it would doubtlessly follow that the aggregate hospital costs of the State would be higher than necessary. The Commission has gathered data to probe into the question of whether there are too many hospital beds, for aside from the light which these facts can throw upon the question of costs, they should also be helpful in judging the value of a proposal which has been made more frequently in recent years, i.e., the proposal that restrictions should be placed upon the supply of hospital beds as a method for holding down aggregate hospital costs.

The following data suggest to the Commission the rather clear conclusion that in Maryland there is no such oversupply, as a practical matter. Our findings do not mean to suggest that there is no instance where present or proposed facilities are unnecessarily duplicated, for there are some; nor do they indicate that more effective planning is unnecessary. However, the Commission does conclude that if such unused and unnecessary facilities exist their effect cannot be too significant in the aggregate.

a. *"Occupancy Factor" tests*

The first test is based upon the actual "Occupancy Factor" previously referred to, and it should be recalled in passing that Maryland's "Occupancy Factor" is apparently somewhat higher than for the nation as a whole.

It was stated that for the hospital beds devoted to medical and surgical cases, the "Occupancy Factor" was 84.3%, for obstetrical cases, 62.2%, and for pediatric cases, 66.5%. These are natural groupings of beds and they are generally kept separated from each other in actual operation for accepted medical reasons.

(1) *Medical and Surgical Beds*

Medical and surgical beds represent about 78% of the total. For this preponderant part of our bed capacity, just what is the meaning of an 84.3% "Occupancy Factor," in practical terms? It is equivalent to having every such bed completely utilized 5.9 days out of every week throughout the year, i.e., approximately 6 out of every 7 days in every week of the year. It is also the equivalent of a complete utilization for 307 days out of a year, or 10 months of complete usage out of 12. Theoretically, these beds could be used one more day in every week on the average—provided cases could be found for the idle day—and provided people's illnesses could be made to wait. Or, stated differently, the beds could be used two more months in the year provided again that the needs of ill persons could be postponed until the idle months arrive.

As a practical matter, *elective* medical and surgical work can be, and apparently is, fitted into the hospital schedules to a considerable extent. Obviously, however, emergency cases cannot be delayed. Furthermore, the needs of those requiring hospital attention are understandably the principal determinants of when hospitalization occurs, rather than what the effect may be upon hospital's occupancy factor. There are also definite patterns in the public's habits insofar as weekend and holiday usage of hospitals is concerned. Thus, while it is theoretically possible that idle moments in medical and surgical hospital beds could be the primary determinant, it is hardly likely that "Occupancy Factor" arithmetic would supersede the needs and desires of the patients.

If the foregoing practical considerations flowing from the patient's desire could be overcome, there would remain the need to find additional physicians, nurses, and technicians (among others) who would be required for a full seven-day operation. If they could be found, the extra cost of such personnel would negate (perhaps entirely) the savings otherwise resulting from higher occupancy factors. This comment assumes the present kind of hospital organization, of course; under some other system, such as closing down some hospitals during slack periods and concentrating the loads in others (if that is feasible) then a different conclusion as to full seven-day staffing might emerge.

We observe the general rule that the larger hospitals are apt to have slightly better occupancy factors than smaller hospitals; on the other hand we repeat the finding (both Maryland and national) that the average length of stay is shorter in the smaller hospitals, which tends to reduce the "Occupancy Factor."

We are not able to express a judgment as to what is the practical maximum "Occupancy Factor" that can be attained, but in view of the experience as reflected in the statistics available we are inclined to the judgment that an "Occupancy Factor" of 80-85% is probably close to the absolute maximum from a practical standpoint. Indeed because such a load factor allows practically no room at all for unexpected surges in the public's needs because of unusual incidence of seasonal sickness, or of occasional epidemics, or of occasional catastrophic occurrences, we wonder if an "Occupancy Factor" of more than 80% is not unwise in the public interest. In any event, the 84.3% "Occupancy Factor" for 1962 suggests that there was no excess capacity of such beds from the broad viewpoint.

(2) *Obstetrical Beds*

Obstetrical beds represent about 12% of the total bed capacity in the general hospitals. Their occupancy factors are generally lower than for the two other groups of beds, and they have always been so during the period under review. As far as we can tell they have been substantially less than for medical and surgical beds elsewhere in the country as well. The supply of beds must obviously be geared to the peak load, with little or no opportunity for deferment in admissions. We note that the "Occupancy Factor" of obstetrical beds tends to be consistently higher in the larger hospitals than in the smaller ones which is *not* true for the medical-surgical and pediatric beds. We assume that this means that the larger sized hospital can handle peak loads of nondeferrable demands with less reserve capacity than smaller hospitals can. If this explanation is correct it is because of a principle well understood and widely applied in other fields, whether business, engineering, public utilities, or the military.

It may well be, however, that present bed capacity devoted to obstetrical needs is moderately higher than present needs. The number of births in Maryland increased markedly until 1957, but thereafter levelled off; indeed

the 1962 births were no higher than in 1957 despite the significant growth in total population in the meantime:

Births in Maryland
(Maryland State Department of Health)

1953	64,523
1954	67,445
1955	69,205
1956	72,111
1957	76,127
1958	75,997
1959	77,165
1960	77,496
1961	78,190
1962	76,325

In view of the resumption of a rising volume of births which is expected very shortly, this overcapacity (if any) would be short-lived. It would be poor public policy to have less-than-adequate facilities in this area.

(3) *Pediatric Beds*

Beds devoted to pediatric use represent 10% of the total. Their occupancy factor is low. It has remained unchanged at about 67%, but the length of stay per case has dropped substantially from an average of 9 days to 6.6 days between 1953 and 1962.

We believe that proposals to construct additional pediatric beds should be very carefully studied before being undertaken. The primary reason, according to our physician members, is that progress in medical science has reduced the need for specialized pediatric units. For example, newer antibiotics take care of pneumonia cases at home and also prevent the occurrence of middle ear infections, mastoiditis, and other infections that formerly required hospitalization. The "Well Baby" Clinic has been a factor in lessening hospitalization. We are advised that children are now more frequently being treated at home with the newer medicine therapy, and hospitalization has been discouraged because of the fear of emotional trauma to a young child as the result of a hospital admission.

Concentration of highly specialized equipment required for pediatric diagnostic, surgical, and therapeutic purposes into a few hospitals may be desirable. A community-wide affiliated pediatric service, with appropriate handling of physician and intern relationships, has already been proposed by some physicians. A combination of these two possibilities into a few pediatric centers may therefore be both feasible and desirable.

Conclusion

The Commission concludes from a consideration of the "Occupancy Factor" that (a) there is no indication at all of any substantial amount of unused facilities from a practical standpoint, (b) there has been no lessening in the degree to which these facilities have been used over the past decade and hence the rise in operating costs during these years could not be caused by any increase in so-called "idle capacity," and (c) Maryland's performance in this regard is a little better than the nation's, rather than otherwise, both at the present moment and comparatively over the past decade. This latter point is significant unless one is prepared to believe that there is a substantial wastage in hospital facilities all over the country. In view of the greatly mounting difficulty over the past decade in obtaining funds with which to build new hospitals, we do not think such an assumption is a reasonable one to make.

b. *Tests based upon actual occupancy at time of maximum loads*

The Commission made a second approach by studying the number of days for which each hospital was filled to capacity or near-capacity. The actual occupancies at various times during 1962 were obtained from 25 of the general hospitals in Maryland and in the aggregate these institutions contained 4 out of 5 of all the general hospital beds in Maryland. A reference to Exhibits 8 and 19 sets forth the results of its findings. These may be summarized in a brief form as follows:

(1) *Actual Occupancy at Time of Maximum Load*

(a) Operating at 100% or more of capacity at time of maximum load were:

10 hospitals out of 12, in respect to their medical beds, where these were separated from surgical beds.

8 hospitals out of 12, in respect to their surgical beds, where these were separated from medical beds.

7 hospitals out of 13, in respect to their medical and surgical beds, where these were operated as a combined unit.

15 hospitals out of 24, in respect to their obstetrical beds.

13 hospitals out of 23, in respect to their pediatric beds.

(b) One hospital operated at over 150% of its capacity at time of maximum load, and the others of the foregoing group oper-

ated at between 100% and 150% of their capacity at that time.

(2) *Number of days in the year 1962 when 80% or more of the beds were occupied*

The medical and surgical beds in 9 hospitals were occupied at 80% capacity or more for 300 or more days of the year. In 17 such hospitals the beds were occupied for 80% or more capacity for 200 or more days, and practically all of them were occupied for more than 80% capacity at least 1/3 of the year. In the case of obstetrical and pediatric beds, 6 hospitals and 8 hospitals, respectively, were occupied to a capacity of over 80% at least 1/3 of the year.

(3) *Number of days in the year 1962 when 90% or more of the beds were occupied*

In 3 hospitals medical and surgical beds were occupied at a 90% or larger load factor for more than 200 days out of the year, and 13 of the 25 hospitals had an occupancy factor of better than 90% for at least 1/3 of the year. There was less of the "Over 90%" occupancy for the obstetrical and pediatric beds.

Conclusion

The Commission believes that occupancies of these magnitudes and in particular the occupancy at the time of peak loads suggests a tighter condition than is desirable in the public interest, at least in the medical and surgical categories, which represent nearly four-fifths of the total bed capacity. While some risks can be taken in respect to the ability to handle peak loads of public requirements the Commission judges that the capacity of Maryland's general hospital beds is probably too tight for the public good, rather than too plentiful, except for pediatric beds. This judgment derived from the analyses described also seems to be in general agreement with the common-sense meaning of the fact that the present number of hospital beds in Maryland per thousand of population could be increased by 25% before reaching the national average, or the average of the Atlantic Seaboard States. We believe, in short, that if the available hospital beds are not at the ideal number, it is more likely that they are short of what should be required rather than in surplus supply.

8. *Two Supplemental Matters Regarding Utilization of Hospitals*

a. *Utilization of Available Bed Capacity over Weekends and Holidays*

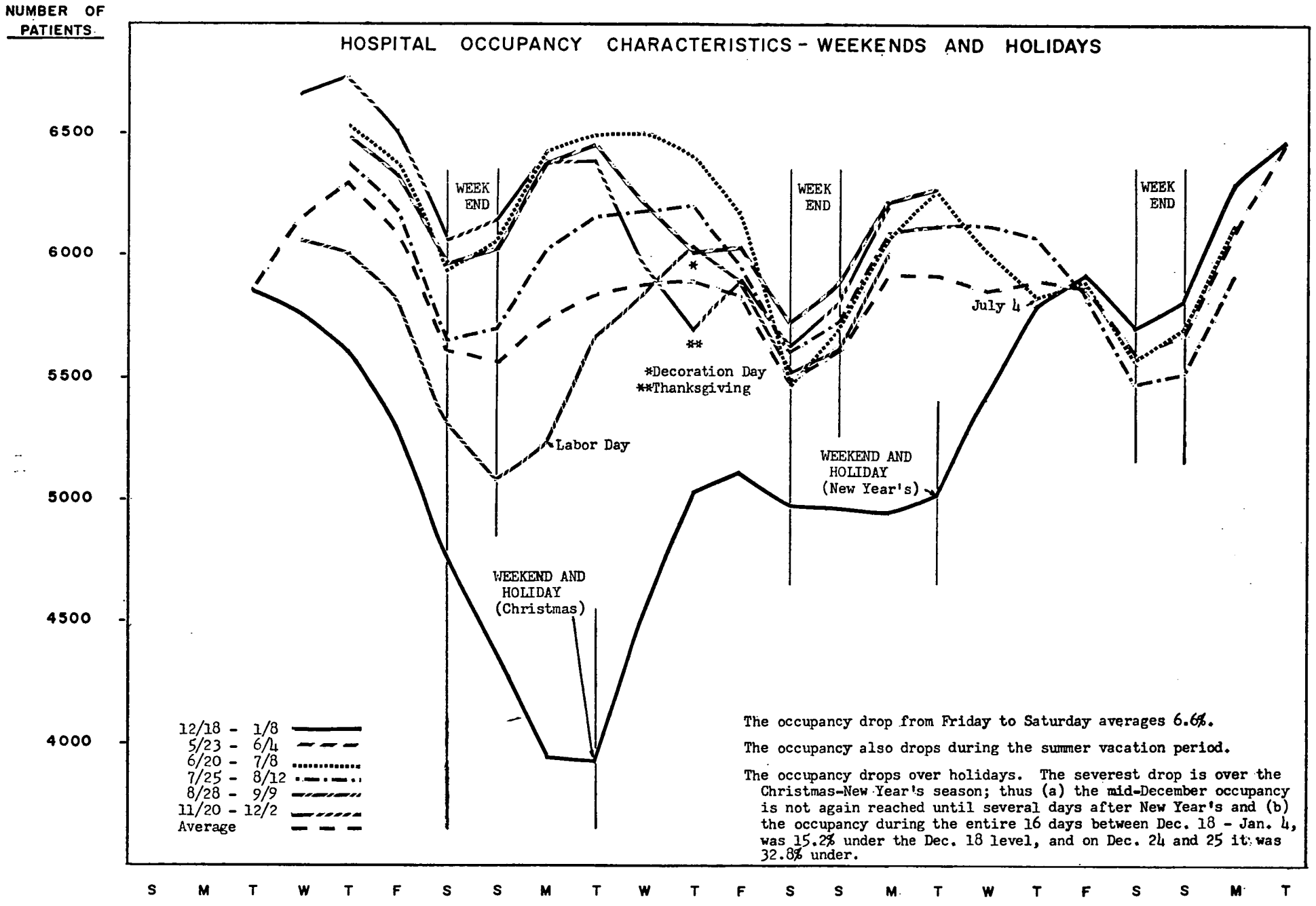
An earlier section of this Study produced the conclusion that if the existing bed capacity available to the Maryland public was not at the right quantity, it was probable that such capacity was a little less than it should be, rather than more. There remains the question, however, of whether the existing complement of beds and all the hospital facilities could be used more fully.

Overhead costs, including the "readiness to serve" costs, do not rise or fall appreciably when occupancy of the hospital drops over a weekend, a holiday or a vacation season. It is, therefore, frequently proposed that if hospital facilities could be utilized more fully during these "off-peak" periods, the average costs per day of operating a hospital could be reduced.

A survey was made to cover six periods during the year ranging from two to three weeks in length and so selected that they would contain a number of weekends, the major holidays, and also two periods during the summer vacation season. The study was made by determining the total number of inpatients for all the general hospitals in the State on each of the days in these selected periods. The results are shown graphically by the ensuing chart. The study shows quite clearly that the occupancy of practically every Saturday and Sunday is distinctly lower than the occupancy on the preceding Friday or the ensuing Monday. Depending on the time of the year, the Saturday-Sunday occupancy shows a decline ranging as high as 11½% and as low as about 3%. For all weekends in the entire sample, the average drop for the Saturday-Sunday occupancy was 6.6%.

The study also showed a notable decline over the holiday season. The drops were more severe for some holidays than for others. The most severe was for the Christmas season where, as the chart will indicate, there is a distinct valley beginning about December 18 and running through January 4. The deepest gap was on December 24-25 where the occupancy drop was 33% and where for the entire two-week period the drop from the levels of both December 18 and January 4 was approximately 15% in the aggregate.

Some studies in other parts of the country have indicated a higher drop over the weekend period than the 6.6% found by the sample of 1962 which was studied for the hospitals of Maryland. Comparable investigations made by other study groups have reached the conclusion that while operating costs per patient day can be reduced if the "Occupancy Factor" in hospitals is maintained at a higher rather than a


HOSPITAL OCCUPANCY CHARACTERISTICS - WEEKENDS AND HOLIDAYS
NUMBER OF PATIENTS
6500
6000
5500
5000
4500
4000
WEEK END
WEEK END
WEEK END
*Decoration Day
**Thanksgiving
Labor Day
July 4
WEEKEND AND HOLIDAY (New Year's)
WEEKEND AND HOLIDAY (Christmas)
12/18 - 1/8
5/23 - 6/4
6/20 - 7/8
7/25 - 8/12
8/28 - 9/9
11/20 - 12/2
Average
The occupancy drop from Friday to Saturday averages 6.6%.
The occupancy also drops during the summer vacation period.
The occupancy drops over holidays. The severest drop is over the Christmas-New Year's season; thus (a) the mid-December occupancy is not again reached until several days after New Year's and (b) the occupancy during the entire 16 days between Dec. 18 - Jan. 4, was 15.2% under the Dec. 18 level, and on Dec. 24 and 25 it was 32.8% under.
S M T W T F S S M T W T F S S M T W T F S S M T

lower figure, it is the public which will ultimately determine whether its own convenience prevails over somewhat higher hospital costs or whether the reverse thereof prevails. The conclusion of these other studies is in effect that if the public does not wish to use its hospitals over weekends and holiday periods any more than is absolutely necessary, then it must expect that somewhat higher hospital bills will result.

The Commission subscribes to this conclusion. It does not believe that the public will change its understandable preference in this matter even though costs would be reduced moderately thereby. Hospitals should nevertheless be encouraged to experiment with steps which would save idle-time costs or else reduce average costs.

b. *Use of General Hospitals for Longer Term Purposes*

The review of every single inpatient case in Maryland on March 12, 1963, disclosed, among other items, that there were a number of patients who had already been hospitalized for a much longer period than is associated with the concept "short-term, acute" illness which general hospitals are designed to serve.

Aside from the obvious effect of lengthening the average length of stay for all patients, these cases raise the question whether the beds of *general* hospitals should be used for very long stay cases. The accompanying table indicates that by the time these patients were finally discharged:

1,178 cases out of 7,809 were hospitalized more than 30 days

835 cases had been hospitalized 31 to 60 days

203 cases had been hospitalized 61 to 100 days or longer

120 cases had been hospitalized 101 to 364 days

20 cases had been hospitalized a year or longer:

4 of these cases had been hospitalized more than 6 years

1 of them was hospitalized 25 years

Instances of Unusually Long Occupancies by Inpatients (From a Sample of 7,809 Cases in the Hospital on a Given Day)

	Blue Cross	*Indigent*	*Other*
Teaching Hospitals			
31 to 60 days	88 cases	56 cases	85 cases
61 to 100 days	14 cases	16 cases	27 cases
Extremes (1 case each)	118, 151, 164, 168 days	103, 108, 115, 125, 127, 138, 140, 161, 192, 249, 264 days	111, 116, 119, 120, 134, 155, 160, 175, 217, 231, 264, 267, 292, 351, 398, 487 days
Large City Hospitals			
31 to 60 days	105 cases	76 cases	95 cases
61 to 100 days	17 cases	23 cases	23 cases
Extremes (1 case each)	110, 113, 116, 141, 152, 153, 205, 247, 482 days	104, 110, 113, 122, 123, 123, 137, 173, 694 days	105, 105, 110, 114, 117, 123, 128, 136, 155, 158, 188 days
Small City Hospitals			
31 to 60 days	29 cases	24 cases	18 cases
61 to 100 days	6 cases	7 cases	6 cases
Extremes (1 case each)	269 days	175 days	103, 141, 153, 228, 281, 365 days
Large County Hospitals			
31 to 60 days	50 cases	33 cases	56 cases
61 to 100 days	9 cases	4 cases	13 cases
Extremes (1 case each)	110, 110, 222, 234, 266, 548 days	107, 108 days	104, 111, 114, 117, 117, 126, 142, 145, 152, 245, 254, 279, 311, 322, 354, 389, 490, 548, 867, 2,190, 2,738, 3,103, 9,129 days
Small County Hospitals			
31 to 60 days	18 cases	28 cases	52 cases
61 to 100 days	4 cases	8 cases	18 cases
Extremes (1 case each)	108, 112, 117 days	150, 535 days	101, 108, 129, 143, 153, 164, 176, 177, 190, 203, 213, 216, 276, 335, 369, 440, 451, 620 days
3 Special Hospitals			
31 to 60 days	5 cases	14 cases	3 cases
61 to 100 days	1 case	5 cases	2 cases
Extremes (1 case each)	115 days	104, 112, 117, 126, 134, 137, 145, 165, 170, 171, 204, 204, 216, 232, 240, 406 days	320 days

VI. What are the facts about the alleged "abuse of hospitals"?

SUMMARY

The expression "abuse of hospitals" apparently means widely differing things to different people. This includes dissatisfaction with or misunderstanding of such matters as: insurance policy and Blue Cross policy terms, hospital billing practices, charges by physicians or hospitals in excess of Blue Cross-Blue Shield coverages, room rates at hospitals when in excess of motel rates. The term also has different meanings to others: work done in a hospital which could have been done in a doctor's own office, particularly X-ray and laboratory tests; a too liberal use of X-rays, laboratory determinations, and tests of various kinds when diagnosing or treating patients; and the admission of patients into a hospital that results in bills submitted to Blue Cross for payment, when the terms of the Blue Cross policy are intended not to cover such work—admission for diagnostic purposes in some circumstances, or pre-existing illnesses, being examples.

The Commission concluded that some of these concepts relate to the problems of who pays, or to whom payment is made, or to payments considered to be excessive. However significant they are for other purposes, they do not relate to whether a patient should have been admitted, or what was done for him after admission, whether he stayed too long, or similar aspects of patient treatment. The Commission evolved this definition as expressing the meaning of "abuse" of hospitals:

> "In the light of *all* the circumstances of the patient's case: was there a clearly unnecessary use of the hospital, or were clearly unnecessary procedures or unjustifiable tests performed on the patient, or was the length of stay clearly too long?"

To ascertain a maximum feasible measure of the facts the Commission caused an examination to be made of the medical record for every patient who was hospitalized in every one of the 44 general hospitals in the State, as of a given normal weekday (March 12, 1963), in a manner intended to produce an objectively determined body of evidence. On the day selected there were 7,809 hospital patients other than newborns, premature births, and psychiatric cases; these 7,809 represented an occupancy factor of 86% of the available beds. The medical records were examined independently by two reviewing physicians who were not connected with the hospital in which the patient was treated, and some of the cases were reexamined by special panels of physicians. From all these reviews, the principal findings were:

1. In only .6% of the cases did the two reviewing doctors agree that the admission could be medically questioned.

2. In an additional 4.8% of the cases one, but not the other, of the two reviewing doctors found cause to medically question the hospitalization.

3. The reviewing physicians could give no consideration or weight to home conditions or other social and nonmedical circumstances, and if weight is given to these factors, which must also influence both the admission and the time of discharge of the patient, a lower level of figures would be a more accurate measure of the actual conditions.

4. There was another group of 5½% where there were some elements of doubt in varying degree as to whether the patient should have been admitted.

5. Admissions for primarily diagnostic purposes were judged to be 13.2% of the cases with another 3.4% of the cases termed "doubtful."

There are about 223,000 of those enrolled under Blue Cross whose contracts *do* cover admissions for diagnostic studies. It is believed most commercial carrier contracts provide similar coverage. Such admissions, therefore, in whole or in great part come under the policy.

6. Needlessly prolonged hospitalization, insofar as medical reasons alone were involved, was found in 14% of the cases; excessive or unnecessary laboratory tests or procedures were found in 6% of the total cases, and unnecessary procedures were found in 4% of the total cases. The last two figures, 6% and 4%, are to a considerable extent the same cases as are involved in the 14% group of cases, and all three groups include many of the same ones where the admission was questioned. The percentages are not additive.

In none of these findings was the reviewing physician given any evidence as to the nonmedical aspects of the patient, such as home conditions, personal complications and similar facts which may have influenced the original admitting physician in deciding whether or not to admit the patient. Much evidence was given to the Commission on the point that these nonmedical reasons often must be given compelling weight in the decision as to whether a patient must be admitted to the hospital; and often discharges from the hospital are delayed for nonmedical reasons such as an inability to have him accepted elsewhere as soon as medical reasons alone would otherwise permit the discharge.

In the area of corroborating evidence were: (1) the Maryland group of 7,809 patients was strikingly similar to a group of 26,305 patients in all of the hospitals in Michigan as to the characteristics of age, length of stay and type of patient; (2) the overall findings about inappropriateness of admitting the patient to the hospital

are in the same general area as the findings made in two other states by different methods.

The Commission believes the various findings can be accepted as reasonable measures of actual conditions, provided no weight at all is given to the nonmedical reasons which also must influence both the admission of the patient and the time of his discharge. If weight is given to these nonmedical reasons, a lower level of figures for questioned admissions and lengths of stay would be more accurate measures of the actual conditions.

1. *What is meant by "abuse of hospitals"?*

a. *Problems of Language*

The Commission was aware that some of the public believed or alleged there was "abuse" in the use of hospitals, with consequent effects upon the Blue Cross, and insurance company premiums. It was aware that the word "abuse" meant widely differing things to different persons. For example: one physician wrote of his belief that some insurance policies tend to force hospitalization, i.e., "policies will not pay the physician for office or home visits but will pay if the physician sees the patient in the hospital," or "will pay for diagnostic tests if the person is in a hospital." A patient believed "abuse" was involved when her physician charged more than the Blue Shield allowance. Another thought fraud was being practiced because "hospitals make the patients pay, and then they send a bill to Blue Cross, too." Several complaints were based upon the fact that a hospital did not furnish an itemized bill to patients covered by commercial insurance until the bill was paid (apparently this practice is followed in order to prevent the patient from sending the bill directly to the insurance company, collecting it, and not reimbursing the hospital). One patient was asked to approve a hospital's claim against Blue Cross for an amount substantially in excess of the actual bill (the hospital clerk erroneously copied the top half of one bill and the bottom half of another, including the total of the latter; the hospital would not have benefited after the regular year-end audit and adjustments, even if the patient had not detected the error). A citizen felt "abuse" was involved because hospital room rates exceeded certain motel rates in Florida. It was alleged that children were admitted to a specified hospital so as to leave the parents free over some winter holiday weekends (an examination of every pediatric case admitted to that hospital during the months involved clearly did not bear out the charge).

There are other meanings. Some physicians apparently consider there is "abuse" when any work on a patient is done in a hospital if it could have been done in a doctor's own office, particularly where X-ray or laboratory determinations are involved. Some physicians believe that some of their colleagues (particularly younger doctors and interns) order too many tests, X-ray, laboratory, or otherwise, in the diagnosis or treatment of their patients.

Blue Cross has an organized basis for reviewing claims so as to eliminate those improperly asserted under the terms of its policies. They include, among others, claims for a pre-existing illness when made before the expiration of the specified waiting period, and claims for cases apparently admitted to hospitals primarily for diagnostic work when the terms of the policy clearly meant to exclude payment for such work. It should be noted that many of the hospital-expense policies issued by commercial insurers cover diagnostic work done in a hospital. At least 223,000 of those insured by Blue Cross in Maryland are also covered for similar diagnostic work.

These conceptions about "abuse of hospitals" have varying significance. As to the more serious ones:

The Commission concluded that whether the patient should be treated outside the hospital or inside was a case-by-case determination which should be governed by the patient's welfare, the availability of hospital space, as well as the relative cost to the patient. It is entirely likely that cases exist of collusion between patient and physician where the result is a fraudulent claim against the insurance company or Blue Cross. This, however, does not necessarily mean that the diagnostic work in the hospital was itself improper. Aside from the collusive aspect, however, the question of where a patient is treated seems to involve the matter of "who receives payment?" as well as whether any "abuse of the hospital" is involved.

The Commission asked for a judgment from the Medical and Chirurgical Faculty of Maryland concerning the feeling by some of its physician members that other physicians ordered too many tests. The Chairman of its Council, Dr. Edmond J. McDonnell, replied in essence that:

> ". . . It is difficult, if not impossible, to provide a realistic answer to this question" (relating to the increase in

the number of tests over the past ten-year period). "This is really a reflection of methods and care rendered by physicians rather than numbers. This is also a problem that will vary between the teaching centers and nonteaching centers. It is, therefore, not possible to give you any definite statement as to the queries you have raised with respect to laboratory examinations and the increase in their numbers over the past ten years. No doubt, more tests than are absolutely necessary are done. Occasionally something is uncovered that would not have been found any other way. This piece of knowledge may justify the expense of some of the unnecessary tests."

The Commission points out that improper claims against Blue Cross may involve services not covered under the insurance policy, but as already stated, this does not necessarily mean that the diagnostic work itself was improper or an "abuse of the hospital." Additionally, by no means all diagnostic studies justify the use of a hospital's inpatient facilities, particularly so at a time when available beds are in short supply. If a given case of diagnostic work was appropriately done in the hospital, and if the same treatment is "proper" under one Blue Cross or other insurance policy but not under another, then the area of difficulty is obviously one of contract terms, and not whether the hospital was itself improperly used.

b. *The Commission's Own Definition*

The Commission concluded that the loosely used phrase "abuse of the hospital" had significance when it meant, "In the light of *all* the circumstances of the patient's case: was there a clearly unnecessary use of the hospital, or were clearly unnecessary procedures or unjustifiable tests performed on the patient, or was the length of stay clearly too long?" So phrased, there is excluded the aspect of justifying any given admission to a hospital at a time when available bed capacity is in short supply and therefore needs to be reserved for the most serious needs (i.e., admission for elective diagnostic work might be entirely proper at a slack time and improper at another). The phrasing also excludes those aspects relating to the *quality* of the professional and patient care done for the patient, as distinguished from its *quantity*.

c. *Details of the Investigation Made*

(1) After considering alternate methods for developing an adequate body of factual material in respect to the existence of "abuse" as so defined, the Commission decided to have examined, by appropriate methods, the medical record for *every* patient in *every* one of the 44 general hospitals in Maryland on a given single normal weekday, and to determine for *each* case the facts or judgments required to arrive at reasonably correct answers.

While a vast and costly undertaking, the Commission concluded that the disquiet in the public mind warranted as thorough, complete, and objective an investigation as was feasible. The Commission would even have preferred to examine all the cases for each one of seven days, appropriately spaced during the year, but the enormity of the physical task involved made this desire impossible as a practical matter.

(2) Essential details of the medical audit methodology specified by the Commission were as follows:

(a) The medical record for each patient was required to be examined by two physicians, working independently of each other.

(b) Reviewing physicians were required to be assigned to cases in hospitals other than those with which they were connected, and to the maximum extent possible, to hospitals in sections of the State or metropolitan area other than where they customarily practiced.

(c) Patients' cases were given code numbers under the direction of the Commission's own consultants, and other steps were taken by them to safeguard the anonymity of the patient.

(d) Physicians were asked to review cases which were within their field of particular competence, i.e., surgical cases were assigned to surgeons, medical cases to internists, etc.

(e) The initial examinations were made primarily by physicians who customarily admitted patients to hospitals and treated them, rather than by physicians who generally functioned in such diagnostic specialties as radiology or pathology.

(f) A review procedure for cases where secondary reviews were considered necessary was developed by the Medical and Chirurgical Faculty Group.

(g) Provision was made for any physi-

cian wishing to do so, to express directly to the Commission any view and example concerning "abuse" or improper use of hospital facilities, unnecessary treatments and procedures, or undue lengths of stay.

(h) Statistical and other controls were established to assure completeness of the examinations. Information relating to the type of patient and other relevant details were also gathered for each case.

(3) A uniform set of questions was answered by each of the two reviewing physicians for each case examined by him. A sample "Doctor's Case Evaluation" is included herein. Four principal judgments were asked for:

(a) If you were the patient's physician and you had the same basis for decision, would you have hospitalized him? ("Yes" "No" "Doubtful")

(b) If the answer was "No," was it because (1) condition not severe, (2) insufficient preadmission diagnosis, (3) could have been treated outside the hospital, or (4) other reason?

(c) Do you think that this admission was primarily for diagnostic purposes?

(d) In your opinion, was there any evidence of (1) needlessly prolonged hospitalization, (2) excessive or unnecessary laboratory tests or X-rays, (3) unnecessary procedures?

(4) Physicians made their judgments entirely from the hospital's medical record before them. There was no consultation with the patient's physician. Neither did the hospital record contain any of the background of personal or family aspects which may have influenced the admitting physician in his decision to place the patient in a hospital, or keep him there, nor did it contain information about the difficulty of discharging the patient in those cases where suitable home facilities were lacking. The Commission recognizes that the lack of such "social" information may have impelled the reviewing physician to disagree with the admission or retention, when he might have concurred had he known all the nonmedical facts.

(5) The date selected was March 12, 1963. It was considered unnecessary to examine the medical charts of the newborn in the hospital on that date, and the premature birth cases, and as a practical matter, no examination was made of patients in psychiatric wards. The number of all the other cases examined was 7,809. This large number represented an occupancy factor of 86% of all the beds available.

Each case was examined independently by two physicians, except for 244 cases where the second physician did not complete his work. Thus, approximately 15,400 individual evaluations were made. In addition, over one-quarter of the cases where the two physicians disagreed as to whether they would have admitted the patient to the hospital were reviewed by teams or "panels" of five physicians each, including the specialties of radiology, pathology, general surgery, internal medicine and general practice. The cases were reviewed by panels of physicians who did not practice at the hospital involved in the cases under review. One of these secondary review panels functioned on the Eastern Shore, one in the western part of the State, and the other in or around Baltimore.

The Medical and Chirurgical Faculty of the State of Maryland recruited, selected and assigned the physicians who made the individual reviews, and also those who constituted the panels which made the secondary reviews. Approximately 600 physicians made the reviews during the period from December 1963 to May 1964, and over 4,000 man-hours of effort were expended by them, aside from traveling. They volunteered their services and were not compensated for any expenses.

Personnel from every hospital cooperated extensively. It is estimated that about 5,600 man-hours of effort were contributed by them to the project.

It was the objective of both the Commission and the Medical and Chirurgical Faculty to secure evidence that was as objective and unprejudiced as possible. The Commission sought to design the effort in a manner intended to achieve objectivity. The Medical and Chirurgical Faculty expressed its judgment on that point both before and after the work was completed. Dr. Edmond J. McDonnell, then Chairman of the Faculty's Council, characterized the completed work of the physicians as follows:

"To the best knowledge of the Executive Committee representing the Faculty, the survey was conducted on a completely objective basis, and the results would, therefore, be objective and without bias."

DOCTOR'S CASE EVALUATION

Reviewing Doctor's Name ---------- Commission Case No. □□□

Reviewing Doctor's Code □□□ Hospital Name ----------

Primary Discharge Diagnosis □□□ Hospital Code □□□

1. If you were the patient's physician and you had the same basis for decision, would you have hospitalized him? (circle appropriate number)
   (1) Yes
   (2) No
   (3) Doubtful

2. If the answer above was No, was it because— (circle appropriate number)
   (1) Condition not severe
   (2) Insufficient preadmission diagnosis
   (3) Could have been treated outside hospital
   (4) Other

3. (a) Do you think that this admission was primarily for diagnostic purposes? (circle appropriate number)
   (1) Yes
   (2) No
   (3) Doubtful

   (b) Was the admission apparently influenced by the existence of insurance coverage? (circle appropriate number)
   (1) Yes
   (2) No
   (3) Doubtful

   (c) If yes, should diagnosis have been made in— (circle appropriate number)
   (1) Doctor's Office
   (2) Outpatient facility
   (3) Hospital

4. In your opinion was there any evidence of other types of "abuse" or "misuse" in this case as follows: (circle or insert appropriate information)

   a. Duration of hospitalization needlessly prolonged? (1) Yes (2) No

   b. If yes, in broad terms about how long----------days.

   c. Excessive or unnecessary lab tests or X-rays? (1) Yes (2) No

   d. Were any unnecessary procedures of any sort performed? (1) Yes (2) No

   e. If there were unnecessary procedures what were they? (Please Print)

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d. *Results of the Medical Audit*

Accompanying tables set forth the principal results of all the examinations made.

(1) As to the major question: "If you were the patient's physician, and you had the same basis for decision, would you have hospitalized him?" the findings were:

Both of the reviewing doctors agreed they would *not* have admitted the patient in	.6% of the total cases
One of the two reviewing doctors, but not the other, would *not* have admitted the patient in	4.8% of the total cases
Total cases where one or the other doctor would not have admitted the patient	5.4% of the total cases

In addition, there were cases where the doctors found a *doubtful* situation, rather than one of "would not have admitted." The proportions were:

Both reviewing doctors agreed it was a *doubtful* case in	1.2% of the cases
One of the two reviewing doctors, but not the other, considered it a doubtful case in	4.4% of the cases
Total cases where one or the other doctor considered the case doubtful	5.6% of the cases

Two qualifying characteristics about these findings should be noted:

(a) The purpose of the secondary reviews by the 5-doctor panels was not to reduce the number of disagreements, but rather to find out if they would disclose a preponderant agreement with the physicians who would not have admitted the patients or found the admissions doubtful, or with those who concurred with the admission. The reviews produced no such preponderance one way or the other. In four-ninths of the cases the panels agreed with the doctor who would have admitted, and in five-ninths with the doctor who would not or who found the case doubtful.

However, if all the cases of disagreement were resolved in the proportions found by the 5-doctor review panels, the result would be:

3.3% of all the hospitalized cases should not have been hospitalized (compared with .6% concurred in by both reviewing physicians plus 4.8% where the reviewers disagreed)

3.7% of all hospitalized cases would be "doubtful" (compared with 1.2% concurred in by both reviewing physicians plus 4.4% where the reviewers disagreed)

(b) No facts about the patient of a nonmedical nature were available to the reviewing physicians. Therefore the aspects of home conditions, personal complications and the like which may have influenced the attending physician either to admit or retain the patient in the hospital could not be taken into account. Much evidence was given to the Commission on the point that nonmedical reasons often must be given compelling weight in the decision as to whether a patient must be admitted to a hospital; and often discharges from the hospital are delayed for nonmedical reasons such as an inability to have him accepted elsewhere, such as in a nursing home or a chronic disease hospital, or home conditions were so bad the medical condition would return if proper steps were not taken to help the patient at home.

The effect of excluding these aspects about the patient from the evidence is that the resulting figures as to questioned admissions or unduly prolonged stays are higher than they would be if these nonmedical facts were taken into account.

(2) Where the admission of the patient was not agreed with, or was considered doubtful, the reasons given were:

	Where admission was disagreed with	*Where admission was considered doubtful*
"Not severe enough"	1.4% of the total cases	.9% of the total cases
"Insufficient preadmission diagnosis"	1.0% of the total cases	.8% of the total cases
"Could have been treated outside the hospital"	2.3% of the total cases	1.6% of the total cases
"Other reasons, not specified"	.7% of the total cases	2.3% of the total cases
	5.4% of the total cases	5.6% of the total cases

(3) Blue Cross frequently must disallow cases which were admitted primarily for diagnostic purposes where this is not covered by the policy. Blue Cross has its own review panels to pass upon questionable cases. The Commission asked the questions "Do you believe this admission was primarily for diagnostic purposes?" and "Was the admission (for diagnostic purposes) apparently influenced by the existence of insurance coverage?"

The results were:

Findings by one or both reviewing physicians	*Was the admission primarily for diagnostic purposes?*	*Was it apparently influenced by insurance?*
"Yes"	13.2% of the cases	2.9% of the cases
"Doubtful"	3.4% of the cases	3.9% of the cases

The findings must be appraised against this background fact: about 223,000 of those enrolled under Blue Cross are under special contracts which *do* pay for hospital admissions for diagnostic studies without limita-

MARYLAND HOSPITAL SURVEY

Findings in a Medical Audit of all the 7,809 patients hospitalized in all 44 general hospitals in Maryland on March 12, 1963 (other than newborn, premature births, or psychiatric cases), by a Doctor's Case Evaluation
(The 7,809 cases represented an occupancy factor of 86% of all the available beds)

1. **"If you were the patient's physician, and you had the same basis for decision, would you have hospitalized him?"** (No nonmedical facts such as home conditions, personal complications, etc., were made available to the reviewing physician.)

	Findings by both reviewing physicians	*Cases where one reviewing physician would* **not** *have admitted the patient*	*Total of two-reviewer plus one-reviewer findings*
No, would not have admitted patient	45 cases	376 cases	421 cases
Doubtful whether case should have been admitted, or not	94 cases	346 cases	440 cases
Yes, would have admitted patient	6,948 cases	.....	.....
Total of all 7,809 cases	7,087 cases	722 cases	7,809 cases
Percentage of the total of all hospitalized cases:			
No, would not have admitted	.6%	4.8%	5.4%
Doubtful whether case should have been admitted or not	1.2%	4.4%	5.6%

NOTE: The medical records for all the 7,809 patients hospitalized on March 12, 1963 were separately examined by two physicians, working independently, except for 244 cases which were not examined by the second physicians.

MARYLAND HOSPITAL SURVEY

Medical Audit

2. If you would not have admitted this patient, why not?

	Reason Given for Disagreeing with Admission of Patient				
	Not severe enough	*Insufficient preadmission diagnosis*	*Could have been treated outside the hospital*	*Other reason not specified*	*Total cases*
a. Where both reviewing physicians agreed that patient should *not* have been admitted					
Both reviewers, on the same case	3	1	12	....	16
One reviewer	15	9	5	....	29
	18	10	17	....	45
b. Where one reviewing physician, but not the other, would *not* have admitted the patient	96	64	160	56	376
c. Total cases, where one or both reviewers would *not* have admitted	114	74	177	56	421
d. Where both reviewing physicians believed the admission of patient was *doubtful*					
Both reviewers, on the same case	4	4	3	5	16
One reviewer	29	23	26	0	78
	33	27	29	5	94
e. Where one reviewing physician, but not the other, believed admission of patient was *doubtful*	35	39	95	177	346
f. Total cases, where one or both reviewers believed admission of patient was *doubtful*	68	66	124	182	440
Percentage of each reason given, to the total 7,809 cases examined					
Where one or both reviewers would *not* have admitted the patient	1.4%	1.0%	2.3%	.7%	5.4%
Where one or both reviewers believed the admission was *doubtful*	.9%	.8%	1.6%	2.3%	5.6%

MARYLAND HOSPITAL SURVEY

Medical Audit

3. "Do you believe this admission was primarily for diagnostic purposes?"

	Findings by both reviewing physicians	*Cases where one reviewing physician would not have admitted the patient*	*Total of two-reviewer plus one-reviewer findings*	
Yes, for diagnostic reasons	228	801	1,029	13.2%
Doubtful	196	73	269	3.4%
No—not for diagnostic reasons	6,511	.....	6,511	83.4%
Total of all 7,809 cases	6,935	874	7,809	100.0%

4. "Was the admission (for diagnostic purposes) apparently influenced by the existence of insurance coverage?"

Yes.....2.9%
Doubtful.....3.9%

5. "Was duration of hospitalization needlessly prolonged? Excessive or unnecessary laboratory tests or X-rays? Were unnecessary procedures of any sort performed?"

	Overstay (insofar as medical reasons alone are involved)	*Unnecessary laboratory tests or X-rays*	*Unnecessary Procedures*
a. Where admission of patient was questioned by reviewing physician			
(1) Both reviewing physicians would not have admitted	28 cases	13 cases	8 cases
(2) One reviewing physician would not have admitted	187	61	72
(3) Total (would *not* have admitted)	215 cases	74 cases	80 cases
(4) Both reviewing physicians considered admission doubtful	64 cases	28 cases	25 cases
(5) One reviewing physician considered admission doubtful	131	44	35
(6) Total (admission *doubtful*)	195 cases	72 cases	60 cases
b. Where admission was agreed to by reviewing physician			
(7) Both reviewing physicians agreed that patient should have been admitted	704 cases	320 cases	167 cases
(8) One reviewing physician (but not the other) agreed that patient should have been admitted (the cases in this group are the same cases as in a. (2) above)	84	29	19
(9) Total (admission agreed to)	788 cases	349 cases	186 cases
c. Total findings in all 7,809 cases			
(line b. (8) eliminated because of duplication)	1,114 cases	466 cases	307 cases
Percentage to 7,809 total cases	14%	6%	4%

NOTE: The cases involving unnecessary laboratory tests or X-rays, and also unnecessary procedures are to a considerable extent the same as are involved in the "Overstay" cases.

tion. The Commission has been advised that all, or practically all, of those insured with commercial insurance carriers *are also covered* for diagnostic admissions. Under such contracts diagnostic cases come within the policy provisions.

(4) Turning now to the other half of the utilization matter, i.e., what occurs after the patient is admitted: For the questions of whether the duration of the hospitalization was unduly prolonged, whether excessive or unnecessary laboratory tests were performed, or whether unnecessary procedures of any sort were performed, the findings were these:

Duration of hospitalization needlessly prolonged (Inability to discharge the patient when he is medically ready for it is involved in these findings.)	14% of total cases
Excessive or unnecessary laboratory tests or X-rays	6% of total cases
Unnecessary procedures of any sort	4% of total cases

The 6% and 4% cases are to a considerable extent the same cases as are involved in the 14% group of cases, and all three groups include many of the same ones where the admission was questioned. The percentages are not additive.

e. *Further Tests Made by the Commission*

(1) The Commission was able to test certain characteristics of the total patient population by the method of comparison, in such a manner as to disclose (a) whether Maryland citizens or Maryland physicians were using their hospitals in any substantially different manner than a completely different set of people and physicians did, and (b) whether the March 12 group of 7,809 patients was an untypical group. While recognizing that comparison is not necessarily the same as proof, the Commission also believes that proper comparisons can be useful tools of analysis.

The entire patient population receiving inpatient hospital care in Michigan on November 15, 1962, was surveyed by the Michigan Hospital Service. The survey did not undertake to evaluate the appropriateness of hospital admissions, lengths of stay, or unnecessary procedures as was done in Maryland, but it did disclose two sets of data which are useful for the present purpose:

(a) For each patient who was a patient on November 15, 1962, how long had he been in the hospital up to the date of inquiry?

(b) For each patient who was discharged from a hospital on that day, how long had he been hospitalized until discharged?

Each of these patients was also classified according to such other characteristics as age, method of payment, etc.

For Maryland, the Commission was able to make similar determinations for all patients who were patients on March 12, 1963, and for 3,103 patients discharged from hospitals beginning March 18, 1963 (representing an approximately equal number of discharges from *each* hospital).

The comparisons between 7,809 Maryland patients *who were in a hospital* on March 12, 1963 and 26,305 Michigan patients who were in a hospital on November 15, 1962, are shown in one of the two succeeding tabulations. The comparison between 3,103 Maryland patients *discharged from a hospital* beginning March 18, 1963, with 2,863 Michigan patients discharged on November 15, 1962, is shown on the other.

It will be observed that the comparisons are extremely close in each of the two studies. The near-sameness in the distribution between the various age groups, plus the near-sameness in the lengths of stay for each age group whether measured as the "stay up to the date of inquiry" or the "stay until the day of discharge," plus the near-sameness in these characteristics for the Blue Cross group versus the non-Blue Cross group, is undoubtedly significant. The Commission interprets these findings as indicating that Marylanders' use of their hospitals is quite similar to the practices of another distinct group in the country. The Michigan sample is the only one of its type which came to the Commission's attention. It is fair to conclude that both states use their hospitals reasonably well, rather than abuse them.

(2) A third principal approach adopted by the Commission was to review the results of the few attempts which have been made elsewhere in the nation to judge the extent of improper hospital utilization.

Chief among them are:

(a) Ray E. Trussell's study "The Quantity, Quality, and Costs of Medical Care Secured by a Sample of Teamster Families in the New York Area" indicated that 12% of the admissions in that study were deemed unjustifiable on the basis of a review of the patients' charts.

MARYLAND HOSPITAL SURVEY

Comparison of Salient Characteristics about Hospital Patients in Maryland and Michigan

(Based on Patients Discharged from Maryland Hospitals compared with Patients Discharged from Michigan Hospitals)

	Maryland Study (3,103 Discharges beginning March 18, 1963)		Michigan Study* (2,863 Discharges on November 15, 1962)	
	Average Stay	*% of Total*	*Average Stay*	*% of Total*
Age Distribution				
Under 20 years	4.9 days	26.9%	5.1 days	25.0%
20-44	5.7 days	39.0%	6.4 days	40.6%
45-64	10.8 days	20.9%	11.2 days	21.0%
65 and over	13.3 days	13.2%	13.1 days	13.4%
Total	7.6 days	100.0%	8.0 days	100.0%
Type of Patient				
Blue Cross	7.4 days	42.4%	8.1 days	49.4%
"Certified Indigent"	9.6 days	15.2%	7.8 days	50.6%
All Other	7.0 days	42.4%		
Total	7.6 days	100.0%	8.0 days	100.0%
Length of Stay (% of Total)				
1- 5 days		55.6%		54.1%
6- 10 days		21.8%		24.7%
11- 15 days		10.3%		9.8%
16- 20 days		5.3%		4.8%
21- 30 days		5.1%		4.1%
31-120 days, and over		1.9%		2.5%
Total		100.0%		100.0%
Average stay of all patients		7.6 days		8.0 days
Length of Stay for Blue Cross Patients				
1- 5 days		53.7%		49.7%
6- 10 days		22.8%		26.5%
11- 15 days		10.8%		11.3%
16- 20 days		6.5%		6.0%
21- 30 days		5.2%		4.3%
31-120 days, and over		1.0%		2.2%
Total		100.0%		100.0%
Average stay of All Blue Cross Patients		7.4 days		8.1 days

* Data taken from "One-Day Census—A Study of Patients in Michigan Hospitals on November 15, 1962," pages 77, 79, 81 and 83, and from supplemental information relating to said study.

MARYLAND HOSPITAL SURVEY

Comparison of Salient Characteristics about Hospital Patients in Maryland and Michigan

(Based on Patients Discharged from Maryland Hospitals compared with Patients Discharged from Michigan Hospitals)

	Maryland Study (3,103 Discharges beginning March 18, 1963)		Michigan Study* (2,863 Discharges on November 15, 1962)	
	Average Stay	*% of Total*	*Average Stay*	*% of Total*
Length of Stay for Patients other than Blue Cross or Certified Medically Indigent groups (For Michigan these are labeled "Commercial Insurance" or "Self Payment," and hence two percentages are shown. For Maryland, the percentages also include the nonpaying patients who are also non-Certified Medically Indigents.)				
1- 5 days		60.6%		60.5— 68.6%
6- 10 days		20.4%		24.2— 15.9%
11- 15 days		9.0%		7.6— 7.3%
16- 20 days		3.9%		3.4— 2.2%
21- 30 days		4.2%		2.8— 3.5%
31-120 days, and over		1.9%		1.5— 2.5%
Total		100.0%		100.0—100.0%
Average of all patients other than Blue Cross or Indigents		7.6 days		6.5-7.0 days

* Data taken from "One-Day Census—A Study of Patients in Michigan Hospitals on November 15, 1962," pages 77, 79, 81 and 83, and from supplemental information relating to said study.

Length of Stay Up to and Including March 12, 1963 of All Patients in Maryland's Hospitals on That Day

Percentage of patients whose length of stay up to and including March 12 was	*Blue Cross Patients*	*Certified Indigent Patients*	*All Other Patients*	*Total Patients*	*Michigan Hospital Cases on November 15, 1962**	
					Blue Cross	*Total*
1-5 days (including day of admission for the Maryland Hospitals)	54.3%	44.4%	54.9%	52.9%	48.1%	49.3%
6-10 days	20.9%	18.6%	19.1%	19.8%	21.2%	20.0%
11-15 days	10.7%	12.5%	9.2%	10.4%	11.1%	10.6%
16-20 days	6.0%	6.9%	5.0%	5.8%	6.3%	6.0%
21-30 days	5.0%	8.2%	5.6%	5.8%	6.1%	6.2%
31 days and over	3.1%	9.4%	6.2%	5.3%	7.2%	7.9%
Total patients	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

* "One-Day Census—A Study of Patients in Michigan Hospitals on November 15, 1962," Part I, page 82.

(b) A study conducted by the Bureau of Hospital Administration of the University of Michigan (McNerney) indicated that only 2.5% of the admissions were deemed inappropriate; and when five diagnoses considered as 100% necessary (e.g., delivery, prematurity) were excluded, the proportion of inappropriate admissions under the remaining 13 diagnoses was 4.3%.

It also indicated as to underuse of diagnostic tests and treatment procedures that approximately 30% of the patients did not receive services established by expert consensus as required for their condition. Another finding was that inappropriate length of stay was found in about 20% of the cases. Extra medical factors were reported in 80% of the understays and 54% of the overstays.

f. *Evaluation*

The nature of these findings is *qualitative* judgments; the material dealt with is not of the sort that can be precisely measured by such tools as weight, volume, distance, and the like. Medical decisions are rarely all white or all black. A gray area lies between and the physician may resolve the decision in favor of admission and justify his decision because so much is at stake from the patient's point of view. We had no way of measuring all the facts that influenced the admitting doctor. The doctor exercised his judgment. We could measure the results based on the available records *after* the event.

The Commission recognizes, moreover, that in any undertaking of this magnitude a wholly uniform degree of judgment or uniformly applied criteria cannot be expected from among so many different evaluators. By the same token, the Commission draws assurance from the diversity in training, practice, and locale which the 600 physicians represent. Routine hospital procedures, tests, drugs, etc., may differ, based on a doctor's training experience or any number of reasons. Every feasible effort was taken to secure objective and sound answers. The men involved have a reputable professional standing. The evidence which results from such a group should be an objective and reasonable measurement of the facts.

In the area of corroborative evidence, the Commission notes that the Maryland patient group was very close in its various characteristics to a much larger group of hospitalized persons in another state, thus inferring that the Maryland group under survey was not a unique or untypical sample. It notes, finally, that the results found for Maryland are in the same general area as the findings made in two other states by different methods, insofar as the admission of patients is concerned.

The Commission believes the various findings can be accepted as reasonable measures of actual conditions when no weight at all is given to the nonmedical reasons which also must influence both the admission of the patient, and the time of his discharge. If weight is given to these important nonmedical reasons, a lower level of figures for questioned admissions and lengths of stay would be more accurate measures of the actual conditions.

VII. What are the facts about hospital services not paid for?

Which groups pay less than the cost of service to them, and which pay more?

SUMMARY

1. The question of "who pays, and who doesn't pay?" has these approximate answers using 1962 as a basis:

a. Between 25% and 30% of the total hospital billings were not paid for by the patients receiving the hospital service. About half of this $31 million sum was paid for by the State, Baltimore City, and the counties out of their tax revenues (which includes the affairs of the University and Baltimore City hospitals), and the other half was absorbed by the hospitals other than University or Baltimore City.

b. As to the other 42 hospitals which absorb one-half of the total unpaid billings: if "Free Work" is considered a pro rata burden of all who do pay hospital bills (including the State and local governments), and if every other patient's bill was paid for in full, then—

The Blue Cross organization should have paid about ....$ .9 million *more*—about 2%

The State and local governments, under the "Certified Medically Indigent" plan, should have paid about ....$2.7 millions *more*

All other private patients should have paid about .....$ .7 million *less*

But, importantly, those non-Blue Cross patients who did pay their bills would collectively have had their bills reduced about $4 millions, and the present nonpayers would have paid the difference.

2. Groups who pay, or are paid for, but at considerably less than cost are:

a. *The older-aged people.* The group of 65 years and over require about three times as much hospitalization per person as do the people under 65 years of age. They must be hospitalized more often, and they stay longer. This same relationship is true elsewhere in the country as well.

b. *The indigent.* Using as a sample those treated under the State's "Certified Medically Indigent" plan, the following statistical profile resulted:

The Certified Medically Indigent obstetrical patient stays in the hospital almost exactly as long as the nonindigent.

The Certified Medically Indigent pediatric patient stays in the hospital half again as long as the nonindigent, and it is surmised that the reason is an inability of hospitals to discharge the children as soon as the nonmedical reasons alone would permit.

The other Certified Medically Indigent patients, who are most of the total volume, stay in the hospital half again as long as the nonindigent group (the sample averaged about 12½ days versus 8½ days, respectively). They are much more concentrated in the older ages (who generally need to stay longer than the younger ages), and also in the longer type illness than the nonindigent group. In short, they are older and sicker when they reach the hospital, and the longer stay is probably attributable thereto.

A separate study of costs based on six selected hospitals in Baltimore and four selected county hospitals was made for the Commission. It indicates that for the average of the ten hospitals the cost per patient day for the indigent is about 3% above the cost for all patients. Accommodation costs are lower, but medical services are higher, apparently reflecting the older and sicker condition of the indigent.

This difficult phase of hospital finances has two aspects:

—Large sums are involved, and it can be regarded as a large *cost* which someone must bear.
—It raises the question, "What group is paying less than the cost of the service rendered to it, and what group is paying more than its share because others are paying less?"

1. *The nature of the problem*

About 25% to 30% of the dollars billed to patients for hospital services rendered in 1962 were not paid for by the persons receiving the services. A part of these unpaid services were absorbed by State and local governments out of tax revenues, but a substantial remainder was left for the hospitals to finance. Hospitals must nevertheless actually collect from paying sources enough to pay all their total costs of operation; hence, hospital rates must be designed so that *aggregate collections* about cover *aggregate costs.* It follows that some groups of patients paid more than their own patient-care costs, and some paid less.

A second factor is that for several substantial groups of patients who do pay, or for whom the State or local government pays, the amounts received are considerably less than the costs of the patient care given to them. Two of these groups are (a) the aged and (b) that portion of the indigent who are cared for under the State's so-called "Certified Medically Indigent" program. There is also some basis for the surmising that

the charges to outpatients as a group are also below cost.

Of course, this situation of rates which are below cost in some cases and above cost in others, is found in all walks of business life and for virtually every kind of article or service purchased. It is indeed an inevitable result when a standard or average price of any kind is applied to all who are served. Within reasonable limits, this condition is expected and accepted by the public, particularly so in the hospital field where the goal is to care for all who need attention.

As hospital charges rise, however, and particularly as the size of hospital deficits exceeds the capacity of the private charity mechanism, it does become essential to keep the charges to the various major groups within a manageable balance.

2. *Bills not paid for by the patient*

a. *About 25% to 30% of the dollars billed are not paid for by the persons receiving the hospital service.*

The size of this unpaid-for sum can be computed in an approximate way as follows:

	All 44 Hospitals Including University and Baltimore City (millions)	
Amounts Billed for Services Rendered		$115.5
Amounts not collected from patients, or from the State and City in their behalf		
42 Hospitals	$15.1	
University and Baltimore City	6.1	$21.2
Amounts paid for the "Certified Medically Indigent"		
By the State, and not billed to the patient (to hospitals other than University)	$ 8.2	
By the local governments (to hospitals other than Baltimore City)	1.7	$ 9.9
Total of these sums billed but not paid for by the patient (i.e., Total of amounts billed but not paid for by the patient, plus amounts paid by the State on behalf of the indigent patient)		$31.1
% of Amount Billed		27%

The actual amount unpaid for is larger than shown here because some hospitals do not include in their outpatient billings any sums not actually collected. A safe range to use in measuring the billings not paid by patients is thus in the magnitude of 25% to 30%.

In approximate terms, about half of this sum is paid for by the State, Baltimore City, and County governments out of their tax revenues (i.e., $9.9 plus $6.1 millions), and the 42 hospitals other than the two operated by the State and Baltimore City absorb the other half (i.e., $15.1 millions, plus whatever hospital services are given for which no bills are rendered).

b. *Which groups do not pay their full costs and which pay more?*

Exact answers cannot be given, primarily because hospital accounting methods do not as yet explore as deeply as they might into the question of who does and who does not pay. What follows is only an approximate analysis.

(1) *Accounting Practice and Terms*

Under present accounting definition and practice, hospitals generally classify the difference between their established charges and the amounts they collect into the following broad categories:

(a) *Patients Covered by Blue Cross Contracts*

This is the difference between actual charges to patients for services covered by the Blue Cross contract, and the amount actually paid by Blue Cross under the reimbursable formula.

(b) *"Certified Medically Indigents"*

This is the difference between amounts billed and collected for patients cared for under the "Certified Medically Indigent" Program reimbursable formula.

(c) *All Other*

While hospitals classify the unpaid-for sums into additional groups, the Commission has not been able to secure enough data relevant thereto, and hence for its own purposes has lumped them into an "All Other" segment. The "All Other" represents the difference between billings and collections for all patients not covered by Blue Cross or the "Medical Indigent Program" or specific contractual operations. Broadly speaking, it includes (a) the charges for those patients where no attempt is made to collect because of the circumstances involved; (b) uncollected amounts where in the opinion of the collection agencies the patients cannot pay for the service because of the lack of funds; (c) the differences that relate to such work as Workmen's Compensation, Medical Care Clinics, etc.; and (d) the portion of charges made to paying patients which are not in fact collected, including those covered by insurance policies. Items (a) and (b) are generally labeled "Free Care."

It should be observed as to this "Free Care" category that (as the Commission understands it) it is the accounting policy of some hospitals not to include full charges for services rendered to outpatients, and indeed some hospitals do not include in

their revenues or billings any sum for outpatient services which is not actually paid for by the patient at the time the service is given.

It is also the Commission's understanding that there are differences in the degree to which collection efforts are pressed, particularly in respect to the billing for outpatient work.

While the Commission has not undertaken to probe these differences between the 44 different hospitals concerned, it recognizes that where they exist, such differences are perhaps traceable to the charitable background of most hospitals, particularly those which were founded or are sponsored by religious groups. It is reasonably clear, however, that the amount of medical care work done for which no payment is made is larger than is shown by the hospitals in the aggregate.

(2) *The figures themselves*

At the Commission's request the public accounting firm of Touche, Ross, Bailey & Smart gathered figures from the Maryland Hospital Service in respect to the Blue Cross figures and also from the State Department of Health in respect to the "Certified Medically Indigent" patients and gathered data from the hospitals themselves. With these and other materials it was possible for them to compute the figures which are shown below and to support them as reasonable though approximate representations.

For this analysis the data for 42 hospitals *excluding* University and Baltimore City were chosen. The difference in financial background for the latter two hospitals (where $6.1 millions was not collected) has been set forth on page 36. The basic figures are:

42 Hospitals in Maryland
(The University and the Baltimore City Hospitals are Excluded)

(1962 Data)	*Total Billings*	*Billings Not Paid For*		*Billings Paid For*
Blue Cross Patients	$ 40.4 millions*	$ 4.4 millions—	10.2%	$36.0 millions
Certified Medically Indigent Patients	11.7 millions*	3.7 millions—	36.6%	8.0 millions†
Other than Blue Cross and Certified Indigents:				
a. "Free Work" or "Courtesy" Work— Patients to whom no charge is made	3.6 millions	3.6 millions—	100.0%	0
b. Other Private Patients	47.0 millions	3.4 millions—	7.6%	43.6 millions
Total	$102.7 millions	$15.1 millions—	14.7%	$87.6 millions

(* These are the amounts billed to Blue Cross, or the State, respectively; the portions of patients' bills not covered by Blue Cross contracts are included in "Other Private Patients" billings, and the amounts paid directly by the patient (Blue Cross or Indigent) are included in "Other Private Patients" billings paid for.)

(† The exclusion of Baltimore City Hospitals from this tabulation is almost entirely responsible for the difference between this figure and the total outlays for said Indigents shown elsewhere.)

(3) *Which group paid for its costs and which did not?*

The Commission adopted the following method for the purposes of its approximate calculations: (a) it considered that the "Free Work" category should be treated as though it were an institutional overhead expense to be borne by all other groups of patients, and (b) it assumed that all bills would be paid, and hence it reduced all billings by enough so that total billings equalled total costs.

The assumption as to Free Work was made because it will remain a fact of life that not all people needing hospital care (or brought to it under emergency conditions) can pay for all the costs incurred for them; and it is not the American way to deny needed hospital care even under those circumstances.

The results are as follows for 1962 conditions.

42 Hospitals in Maryland
(The University and the Baltimore City Hospitals are Excluded)
(See Section II, item 1)

	Total Amounts That Would Have Been Billed	*Amounts Which Were Paid (Previous Tabulation)*	*If Every Patient (Except "Free Work") Paid His Bill Then the Aggregate Collections Would Still Have Been Deficient As Follows:*
Blue Cross Patients	$36.9 millions	$36.0 millions	(—) $ .9 million
Certified Medically Indigent Patients	10.7 millions	8.0 millions	(—) 2.7 millions
All Other Patients	42.9 millions	43.6 millions	(+) .7 million
Total	$90.5 millions	$87.6 millions	(—) $2.9 millions

These interesting results then follow:

(a) The Blue Cross organization should have paid about $.9 million *more* to the hospitals than it did—about 2%. This extra payment would be due to assuming a part of the "Free Work" burden.

(b) The State and the local governments combined should have paid about $2.7 millions more than they did. This extra payment would be required primarily because the present formula for paying the hospitals is based upon prior year costs, and because not all the local governments pay their full 20% share, and because not enough patient days of indigent care are always provided for in the governmental budgets.

(c) The "All Other Patients" would have had their aggregate bills *decreased* $.7 million—but those patients who *paid* their bills would have had *their* collective bills

reduced by about $4 millions. The present nonpayers would have paid the difference.

Conclusion:

The question of "Who pays, and who doesn't pay?" has these approximate answers, using 1962 experience as a basis:

(1) Between 25% and 30% of the total hospital billings were not paid for by the patients receiving the hospital service. About half of this $31 million sum was paid for by the State, Baltimore City, and the counties out of their tax revenues, and the other half was absorbed by the hospitals other than University or Baltimore City.

(2) As to the 42 hospitals which absorb one-half of the total unpaid billings: if "Free Work" is considered a pro rata burden of all who do pay hospital bills (including the State and local governments), and if every other patient's bill was paid for in full, then—

The Blue Cross organization should have paid about ..... $ .9 million *more*—about 2%
The State and local governments, under the "Certified Medically Indigent" plan, should have paid about ..... $2.7 millions *more*
All other private patients should have paid about ..... $ .7 million *less*

But, importantly, those non-Blue Cross patients who did pay their bills would collectively have had their bills reduced about $4 millions, and the present nonpayers would have paid the difference.

3. *Groups who pay or are paid for, but at considerably less than cost*

a. *The Older Ages*

Hospital costs are much higher per person for the older ages than for the younger. On the other hand, insurance protection for the older ages is not as feasible or even available as for the younger ages, and, indeed, the older ages are specifically excluded from many policies. A result of these two conditions is that a substantial extra cost is included in the community's aggregate hospital bill which is not spread equitably among the aggregate of all hospital users. The question of who is to pay the extra cost which the older group does not have the resources to manage will become increasingly severe as (a) the fraction of older age to total population rises, and (b) the competition from preferred-risk insurance policies (both commercial insurers and Blue Cross) reduces the remaining fraction of people who must be charged rates that are designed to produce revenues large enough to cover operating costs in total.

The relevant basic facts about the population of 65 years and over in age are that (1) hospital needs for this group are about three times as much per person as for those under 65 years of age, and (2) this results from more admissions per person, and longer stays per illness for the 65-and-over group than for the younger group.

(1) *Three times as much hospitalization*

Census data (1960) for Maryland counted 3,100,689 of population, of which 226,539 were 65 or over. The percentage of 65+ to total persons was 7%

Hospital occupancy

Maryland "Medical Audit" counted 7,809 total inpatients, of which 1,642 were 65 and over. The percentage of 65+ to total patients was ..... 21% (Michigan "One Day" Survey of all inpatients on November 15, 1962, showed that 6,053 out of 26,305 were over 65, or 23%.)

Hospital occupancy by persons 65 and over was about three times as large as the proportion which all persons of 65 and over bears to the total population. A three-to-one relationship was also found in a Kansas City and an Oklahoma survey, according to a June 6, 1962 study made by the Hospital Council of Maryland. The same result was obtained via a different approach by Maryland Hospital Service in an October 1963 study of its own Maryland subscribers; it found the "Inpatient Days Covered" about three times as large for the older group as the under-65 group (2,461 days per thousand, versus 775 days per thousand, respectively).

(2) *Length of stay*

A sample of 2,106 discharges showed that:

Average length of stay for the patients 65 years of age and over was ..... 13.3 days

Average length of stay for the patients under 65 years of age was ..... 8.1 days

This relationship is 1.6 to 1. The Maryland Hospital Service study referred to in the previous paragraph found for its much larger group 12.81 days and 8.10 days, respectively, which produces an approximately similar relation.

The same study found an admissions rate about twice as much for the older group as for the younger.

b. *The Indigent*

Data for all the indigent are not available, but much is known about those who are cared for under the "State of Maryland Inpatient Program," also known as the "Certified Medically Indigent" group.

Because much interest has been expressed by the Legislature in the expenditures which are being made for this group, three sets of material are included in this Study:

(1) An Appendix is included herein which gathers together material relating to the history and the operation of the present program, and detailed perusal of it is suggested.

(2) A statistical "Profile of the Certified Medically Indigent Patient" is shown in the immediately ensuing pages. It is based upon a study of 3,103 patients, representing an approximately equal number from each hospital, who were discharged on March 18, 1963, or immediately thereafter. Over 15% of them were Certified Medically Indigent.

The findings indicate that:

(a) the Certified Medically Indigent obstetrical patient stays in the hospital almost exactly as long as the nonindigent (Blue Cross, or otherwise);

(b) the pediatric patient is kept half again as long for the Certified Medically Indigent cases as the nonindigent (it is surmised that inability to discharge as promptly as medical reasons alone would permit, is the reason);

(c) the nonobstetrical, nonpediatric Certified Medically Indigent is much more concentrated in the older ages, and in the longer stay types of illness, than is the nonindigent group (Blue Cross, or otherwise). He is less represented in the younger ages. He is, in short, older and sicker. The length of stay is half again as long:

Certified Medically Indigent	12.6 days
Blue Cross Patients	8.7 days
All Other Patients	8.5 days

(3) *Cost of Caring for a "Certified Medically Indigent" Compared With Other Patients*

While not strictly within the assignment to the Commission, but in the endeavor to shed light on a hitherto unexplored facet, an attempt has been made to compare the cost of patient care for a medically indigent patient with the cost of caring for other patients.

The public accounting firm of Touche, Ross, Bailey & Smart was engaged to make the analyses involved. Ten hospitals were selected as a representative cross section of Baltimore City and the several counties. Six hospitals in Baltimore City and four in the counties were selected and the actual work done for each patient of the selected sample was determined. Each category of costs was allocated so as to reflect the differences in type of accommodation and the medical treatment required. The results were so developed that the total cost per patient day for the Certified Medically Indigent could be compared with the same per-day cost for the average of all patients, and of the nonindigent group.

The findings for the ten representative hospitals averaged as follows:

(a) The average cost per patient day to care for the indigent patient was *3% higher* than for the average of all patients.

(b) The average cost per patient day to care for the nonindigent patient was ½% *lower* than the average of all patients.

These results reflect two opposing factors: the costs which relate to accommodations are lower for the indigent, whereas the costs of medical service are higher than for the indigent, probably reflecting the fact that the indigent patient is generally older and more seriously ill than the nonindigent.

The indigent receives the services of the attending physician without extra cost to him or to the State and local governments, and the foregoing figures should be evaluated in the light of this fact.

MARYLAND HOSPITAL SURVEY

Profile of the "Certified Medically Indigent" Patient

These tabulations pertain to an approximately equal number of patients other than obstetrical and pediatric cases who were discharged at each hospital in Maryland beginning on March 18, 1963 (2,106 patients), together with 345 pediatric and 652 obstetrical patients discharged at the same time. The total sample is 3,103.

I. *For the 2,106 Patients Other than Obstetrical or Pediatric Cases*

(a) The general type of treatment involved was as follows:

	Medical Cases	*Surgical Cases*	*Total Cases*
Blue Cross Patients	341	623	964
Certified Medically Indigent Patients	128	144	272
All Other Patients	368	502	870
	837	1,269	2,106

For Certified Medically Indigents, the medical and surgical cases were divided approximately half and half; for the two other groups the surgical cases were much more than the medical cases.

(b) For the entire 2,106-patient sample the lengths of stay were shorter for the younger ages and longer for the older ages.

	Average Length of Stay
Under 20 years (372 cases)	4.5 days
20-44 years (678 cases)	7.4 days
45-64 years (646 cases)	10.8 days
65 and over (410 cases)	13.3 days
Overall average	9.1 days

(c) A larger fraction of the Certified Medically Indigents were concentrated in the 65-and-over age bracket than were the "Blue Cross" and "All Other" groups; and a lesser fraction were concentrated in the Under-20 and the 20-44 year ages:

% of Patients in Each Age Bracket

	Certified Medically Indigent Patients	*Blue Cross Patients*	*All Other Patients*
Under 20 years	16.2%	19.1%	16.5%
20-44 years	26.1%	32.8%	33.5%
45-64 years	27.2%	34.3%	27.7%
65 and over	30.5%	13.8%	22.3%
	100.0%	100.0%	100.0%

(d) The Certified Medically Indigent patient was concentrated to a substantially greater degree in the longer duration type of case, and to a substantially lesser degree in the shorter duration type of case, than the "Blue Cross" or "All Other" type of patient.

The 2,106 cases were classified into fifteen types of illness. The average length of stay for all cases in this sample was 9.1 days. For five of the fifteen types of illness (representing nearly half the total patients) the length of stay was *less* than 9.1-day average (e.g., the "Eye, Ear, Nose and Throat" . . . "Diseases of the Digestive Tract" groups). For the other ten of the fifteen types, the length of stay was more than the 9.1-day average (e.g., the "Miscellaneous Disorders" . . . "Malignant Neoplasms" groups).

A striking disparity between Certified Medically Indigent and the other two groups is apparent (the percentages mean, for example, "35% of all Indigent patients were in the shorter stay type and 65% were in the longer stay type of illness").

	Certified Medically Indigent	*Blue Cross*	*All Other*
Shorter stay types of illness	35%	49%	42%
Longer stay types of illness	65%	51%	58%

These results are probably related to the fact that a larger fraction of the Certified Medically Indigent group are in the "65 and over" age bracket.

(e) The length of stay for Certified Medically Indigent patients was approximately 50% longer than for the "Blue Cross" and the "All Other" groups.

	Certified Medically Indigent	*Blue Cross*	*All Other*
Average Length of Stay	12.6 days	8.7 days	8.5 days

These differences grow out of the lesser proportions of the Certified Medically Indigent whose stays are in the 1 to 5-day range and the much larger proportions whose stays are in the 21 to 30-day, and 31 to 120-day ranges. In the longest category the percentage for Certified Medically Indigent patients is three to six times what it was in the other two groups.

	% of the Total Cases Which Were in Each Length-of-Stay Period		
Length of Stay	*Certified Medically Indigent*	*Blue Cross*	*All Other*
1-5 days	26.1%	43.2%	47.4%
6-10 days	29.4%	26.8%	25.4%
11-15 days	18.0%	13.4%	12.9%
16-20 days	9.2%	8.4%	5.6%
21-30 days	9.9%	7.0%	6.2%
31-120 days	7.4%	1.2%	2.5%
(1 case was longer than 120 days; it was an "All Other" type)	100.0%	100.0%	100.0%

It would appear that the larger fraction of older age people and the longer type illness, which characterize the Certified Medically Indigent group, are a primary cause of the longer duration of stay which also characterizes that group in comparison with the other groups of patients.

(f) For the sample studied, the Certified Medically Indigent patients constituted a much larger fraction of the total patients in the case of the "Large Teaching Hospitals" than for the other hospitals. They constituted a larger fraction in the city hospitals than in the county hospitals. They were a surprisingly low fraction (in this sample) in the "Large County" group of hospitals.

II. *For the 652 Obstetrical Patients*

(a) The proportion which obstetrical cases bear to the total in each group is:

	Obstetrical Cases Only	*Total Cases*	*% Obstetrical to Total*
Blue Cross Patients	200	1,314	15.2%
Certified Medically Indigent Patients	129	474	27.2%
All Other Patients	323	1,315	24.6%
Total Patients	652	3,103	

(b) The average length of stay for obstetrical patients was:

Blue Cross Patients	3.6 days	
Certified Medically Indigent Patients	3.8 days	(3.3 days if 2 cases involving more than 15 days' stay are excluded. The other groups had no "over 15 days" stay.)
All Other Patients	3.4 days	
Total Patients	3.6 days	

There was no significant difference in the length of stay of obstetrical patients as between the Certified Medically Indigent and the other groups. The proportion of obstetrical to total cases was somewhat larger for the Certified Medically Indigent group than for the other groups.

III. *For the 345 Pediatric Patients*

(a) The proportion which pediatric cases bear to the total of each group is:

	Pediatric Cases Only	*Total Cases*	*% Pediatric to Total*
Blue Cross Patients	150	1,314	11.4%
Certified Medically Indigent Patients	73	474	15.4%
All Other Patients	122	1,315	9.3%
Total Patients	345	3,103	

(b) The average length of stay was:

Blue Cross Patients	4.6 days
(4.7% of cases were beyond 15 days)	
Certified Medically Indigent Patients	8.5 days
(15.1% of cases were beyond 15 days)	
All Other Patients	5.2 days
(5.7% of cases were beyond 15 days)	
Total Patients	5.7 days

MARYLAND HOSPITAL SURVEY

Certain Characteristics of "Blue Cross," "Certified Medically Indigent," and "All Other" Types of Patient

1. Age Groupings of Patients in the 2,106-patient sample, and the Average Length of Stay for Each Age Bracket, Classified According to "Blue Cross," "Certified Medically Indigent," and "All Other" Patients.

Age	*Number of Cases*	*Average Length of Stay*	Type of Patient (% Distribution)		
			Blue Cross	*Certified Medically Indigent*	*All Other*
Under 20	372	4.5 days	19.1%	16.2%	16.5%
20-44	678	7.4 days	32.8%	26.1%	33.5%
45-64	646	10.8 days	34.3%	27.2%	27.7%
65 and over	410	13.3 days	13.8%	30.5%	22.3%
	2,106	9.1 days	100.0%	100.0%	100.0%

2. Average Length of Stay, classified according to "Blue Cross," "Certified Medically Indigent," and "All Other" patients in the 2,106-patient sample (652 Obstetrical and 345 Pediatric cases were excluded).

Length of Stay—Days	*Number of Cases*			
1- 5	900		43.2%	26.1%	47.4%
6- 10	559		26.8%	29.4%	25.4%
11- 15	290		13.4%	18.0%	12.9%
16- 20	155		8.4%	9.2%	5.6%
21- 30	148		7.0%	9.9%	6.2%
31–120 (1 case over 120 days)	54		1.2%	7.4%	2.5%
	2,106		100.0%	100.0%	100.0%
Average Length of Stay	9.1 days		8.7 days	12.6 days	8.5 days

3. The proportion of "Blue Cross," "Certified Medically Indigent," and "All Other" types of patient in the 2,106-patient sample, classified according to the size and type of hospital.

Hospital Type				
Teaching		48.3%	22.7%	29.0%
Large City		54.5%	15.8%	29.7%
Small City		53.1%	12.8%	34.1%
Large County		45.9%	6.7%	47.4%
Small County		37.1%	12.3%	50.6%
Special		53.3%	14.0%	32.7%

Certified Medically Indigent patients are a larger fraction of total patients in the large teaching hospitals than in any other, and they are a larger fraction in city hospitals than in county hospitals. They are a surprisingly small fraction in the "Large County" hospital group.

MARYLAND HOSPITAL SURVEY

Type of Medical Case, other than Obstetrical and Pediatric, Classified According to "Blue Cross," "Certified Medically Indigent," and "All Other" Types of Patient
(2,106 cases, based on an approximate equal number of patients discharged at each hospital beginning March 18, 1963.)

Diagnosis	*Average Duration in Days of the Type of Medical Case*	Type of Patient (% Distribution)			*Total Patients in Sample*
		Blue Cross	*Certified Medically Indigent*	*All Other*	
Eye, Ear, Nose and Throat	3.9 days	13.4%	9.9%	9.3%	237
Benign Neoplasms	6.5 days	5.9%	2.6%	5.1%	108
Diseases of Genito-Urinary Tract	6.8 days	8.1%	7.7%	8.5%	173
Diseases of Skin	7.5 days	2.2%	1.1%	1.4%	36
Diseases of Digestive Tract	8.9 days	19.5%	13.2%	17.6%	377
Less Than Average Stay		49.1%	34.5%	41.9%	931
Miscellaneous Disorders	9.5 days	13.5%	18.4%	16.0%	319
Poisonings and Accidents	9.6 days	6.2%	8.8%	12.2%	190
Communicable Diseases	9.6 days	0.6%	1.9%	0.9%	19
Respiratory-Pulmonary Diseases	10.3 days	6.0%	9.2%	7.4%	147
Psychiatric Disorders	11.1 days	0.7%	1.1%	0.8%	17
Diseases of Bones, Joints, Muscles	11.5 days	4.0%	3.3%	3.8%	80
Blood Dycrasias	11.9 days	0.6%	1.1%	0.8%	16
Allergic Endocrine Disorders	12.3 days	3.6%	5.5%	1.7%	65
Cardiovascular Diseases	12.6 days	11.7%	11.8%	11.0%	241
Malignant Neoplasms	13.4 days	4.0%	4.4%	3.5%	81
More Than Average Stay		50.9%	65.5%	58.1%	1,175
TOTAL	9.1 days	100.0% (964 cases)	100.0% (272 cases)	100.0% (870 cases)	2,106

This tabulation shows that the Certified Medically Indigent type of patient (other than obstetrical and pediatric) is concentrated to a substantially greater degree in the longer duration type of case, and to a substantially lesser degree in the shorter duration type of case, than are the Blue Cross or the All Other type of patient.

VIII. What is the outlook for the more significant factors affecting costs, and what can be done to reduce costs?

SUMMARY

The outlook for the significant factors driving costs upward is as follows: (1) More than all other factors together in importance is the wage rate. If wage rates in industry, business, and government continue to increase, so will wage rates for hospital employees. We must assume that for the immediate future the wage rate developments in the country as a whole are more likely to drive hospital costs to higher levels, rather than reduce them. (2) We believe further advances in the medical art of diagnosis and cure can be expected, but we also believe their effects on costs per day or per illness are toward increase, not decrease. (3) We note a growing trend toward greatly expanded demands upon hospitals for added services, with rising costs as a consequence. In that connection, we note a very substantial drop in the active general practitioners in Maryland from 56 per 100,000 population in 1949 to only 31 in 1963. (4) Replacement of old or obsolete facilities with modern ones will also increase costs.

Factors which are not expected to reduce or increase costs: (1) Research costs are not affecting hospital bills for patient care at the present time; (2) attempts to increase a full seven-day-a-week use of the hospitals should be encouraged, but we conclude that the habits and desires of patients will probably not change enough to bring about significant savings.

Cost reductions should be possible in these eleven areas: (1) the size of the personnel complement which is appropriate to various sizes of hospitals needs to be examined in depth and the excess, if any, eliminated; (2) the considerable efforts already being made to find more economical methods of operation should be continued and expanded; (3) physicians should evolve standards of good practice in respect to laboratory tests and X-rays so as to achieve the most sensible balance between good patient care and cost; (4) the manner in which the physician's work in the hospital is organized needs penetrating and well-rounded study; included therein should be the proper place for the graduate-study house staff, the teaching programs and relationships between medical schools and the individual hospitals, the use of paid physicians for full-time or part-time patient-care services, among others; (5) a substantial change is apparently needed in nursing education programs: a more uniform and if possible a better grade of training, and a revision in the design of the programs are desirable. Adoption of a two-year program should be considered. Nursing education should be transferred to the educational system of the State, under an appropriate cooperative arrangement, and cost of nurses' education should be lifted from the hospital patient; (6) training of technicians should also be transferred to the educational system; (7) reductions in the number of beds reserved for pediatric cases may now be feasible; (8) it may no longer be reasonable to expect that the costs of caring for those who cannot or do not pay their bills in full must be borne by those who do pay their bills. Approximately 25% to 30% of all hospital billings are not paid for by the patient, of which about half is recovered by the hospitals from the State and the local governments under the State's very helpful "Certified Medically Indigent" program, or is absorbed by the State and Baltimore City through the deficits of two large hospitals operated by them. The other half is a large sum which the remaining hospitals must absorb by adjusting their billings to the remaining patients. Some solution for this must be found in respect to these uncollected bills. More accounting information in this area is also needed; (9) it should be determined what is the minimum size for efficient operation, and what is the optimum size; mergers among the smaller institutions may need to be induced; (10) study should be given by an appropriate group to the wisdom of removing from hospital expenses, and transferring to community-wide costs, what may be termed "readiness to serve" expenses; like fire protection, the "readiness to serve" costs are not entirely to be considered as a cost of fighting a particular fire or caring for a particular patient; (11) physicians should continue the search for methods whereby a more effective utilization of the hospital can be developed, with a more efficient cost structure as one of the results.

1. *Outlook for the more significant factors affecting costs in an upward direction*

a. We found that the most significant single factor in the rise of hospital costs was the increase in wage rates between 1953 and 1962 (including a small effect of going to the 40-hour week). We found this was equivalent to about $9.26 per inpatient day out of the total increase in all inpatient costs of $15.76. We found that wage costs are two-thirds of the total costs, and since hospital care is essentially personal care, we see no substantial reduction in the use of the individual in these operations.

Historically, wage rates in hospitals have been lower than elsewhere; the gap has been closed to a substantial degree in the last 10 years, but more in that direction may still have to be done. Comparisons show with reasonable clarity that wage levels in the hospital area are not as high as in other areas of employment. It is quite clear to us that if wage rates in industry, business and government continue to increase, so will wage rates for hospital employees.

We must assume that for the immediate future the wage rate developments in the country as a whole are more likely to drive

hospital costs to higher levels, rather than to reduce them.

b. We found that the changes in medical technology had substantially increased costs in several directions: more people required per patient day or per bed in the patient-care operations (in contrast with the "Hotel-like" operations, where the increase required per patient day was no more than the effect of the transition to the 40-hour week), more effective methods of diagnosis but also more expensive because of costly equipment, more effective testing techniques, and the need for more highly skilled technicians, more expensive treatments, whether by drugs, or through advanced surgical techniques, or therapy.

We have the impression that these advances in the art of curing illness or ameliorating physical defects will be extended much further. Indeed all medical research and technological developments are primarily directed toward that end, as they should be. We recognize, however reluctantly, that the newer and more effective methods which have produced the brilliant advances in diagnosis and cure also have the result of increasing the cost per patient day or the cost per illness. We believe further advances in the medical art can be expected, but we also believe their effect upon costs per day or per illness is toward increase, not decrease.

c. We found that the public is steadily expanding the uses it wishes the hospital to supply, rather than reducing them.

We think this trend will not be reversed. Sociological forces, as well as medical ones, are considerably at the bottom of this trend, including:

(1) much larger fraction of married women who now work full time, or substantial part time, with result that care of sickness becomes more and more a hospitalization matter rather than a home-care matter;

(2) great mobility (moving) of our working population, particularly in the younger adult ages, where the young children are also concentrated;

(3) growing trend of turning to the hospital instead of the "family doctor" for 24-hour availability of medical care—and greatly expanded demands for outpatient clinic, accident room, and emergency service.

We have the impression that the general family doctor is increasingly in shorter supply:

Active Physicians in Maryland
Per 100,000 Population

	Physicians in General Practice and Part-Time Specialization	*Physicians in Full-Time Specialization*
1949	56	41
1955	46	43
1959	41	44
1963	31	56

(Source: M. Y. Pennell, Chief, Health Manpower Branch, U.S. Public Health Service, Washington, D.C.)

(4) improved diagnostic technology and increasingly sophisticated and expensive methods are more likely to be installed in hospitals rather than in private offices because in a hospital more extensive use and therefore financial support can be expected for the equipment and technical staff.

We do not foresee any lessening of costs from these forces, but instead a greater and wider use of the hospital as the community health center. The Commission sought the views of a representative group of women of the metropolitan and also the county community on the question "what should be expected of a hospital today by its community, what things should be changed, and what trends should be developed?" Their short report is included as a supplement to this Study. The direction of their views was quite definitely toward fuller and more extensive use of the general hospital. A principal paragraph follows:

"The hospital's role as the focus for all health care services emerged with unconditional clarity. The expressed need was for a wide range of hospital-based services and the security of being able to reach medical help quickly. The group foresaw much greater use of emergency and outpatient facilities as the specialization of medicine intensifies and the difficulty of locating a doctor in his office increases."

The group added:

"The subcommittee was in agreement that if this enlarged concept of hospital-based services increased the cost of service, it was preferable to pay the increase rather than do with lesser services. In short, the hospital with its availability, professional talent and 'readiness to serve' quality is being looked upon as a substitute for the comforting reassurance and availability of the old-time family physician, who worked in a less complicated society."

In presenting the views of this representative group, the Commission does not necessarily accept all of the opinions or conclusions expressed by them. However, these incisive views do add

force to the likelihood that the trend toward greater and wider use of the hospital will be extended further by the public—even though hospital costs will be increased thereby rather than reduced.

d. We found that the replacement of old hospitals with new ones increases costs per patient day. We also found that the public's wish for comfortable and attractive surroundings increases costs. We judge that this factor will continue to operate toward higher costs for some time to come, as a natural result of our rising standard of living.

e. We found that the general rise in national price levels has had a substantial upward effect upon costs, aside from its effects upon the wage structure. If inflationary forces resume on an increased scale, hospital costs will be increased in direct measure. Deflation would have a different effect. We do not attempt to predict what the future holds in this respect. We note that the long-term trend has been toward higher price levels rather than lower, however.

2. *Two matters from which neither reductions nor increases in hospital costs can be expected*

a. *Research Costs*

Considerable sums are spent for research in the medical field. It is natural that much of it should be spent within the hospitals themselves. The Commission questioned each of the hospitals on this matter and the uniform finding is that research is almost entirely (if not completely) paid for out of funds derived from sources other than patient-care costs. Grants for specific research projects by the Federal Government, by nongovernmental agencies, by industry, or from expenditures assumed by educational institutions or organized charities are the sources from which these funds are derived. In the three Maryland hospitals where most of the research is done, the costs are assumed by the medical schools in the case of Johns Hopkins and the University of Maryland, and are paid for by grants of private philanthropy and from endowment income in the case of Sinai Hospital. Neither in the case of these three major hospitals nor in any other does it appear that any significant part of research costs, if indeed any at all, finds its way into patient-care costs or hospital bills.

b. *Seven-Day Week*

An investigation into the public's habits of not using hospital facilities on weekends and over holiday periods was presented in an earlier section of this Study. The findings indicate that significant reductions in average operating expenses per patient day are not apt to result. Despite this negative finding we believe that hospitals should be encouraged to experiment with steps which would save idle-time costs or would reduce average costs. The Hospital Council of Maryland should be urged to find research fund grants through which projects in this area could be launched.

3. *Areas in which cost reduction may be possible*

a. *Wage Costs resulting from excess personnel, if any*

Because in a hospital's operation the wage costs are approximately twice as much as all other costs combined, the Commission believes that maximum study about the size of personnel complements is a continuous need.

The Commission is not able to and does not wish to be understood as passing judgment upon whether the personnel size of any one institution is inadequate or overly adequate. It is indeed impossible to make such a judgment properly, unless each hospital's operation is examined in detail. For only a few reasons among many others, hospitals vary substantially as between the facilities and services which they offer, the extent of their outpatient activities, and the degree to which they conduct educational programs by which their physicians or paramedical personnel are given their specialized training.

It must be noted, however, for whatever the reasons may be, that Maryland hospitals in the aggregate use about 10% more manpower per bed or per patient day than the national average. Moreover, it should be noted that there clearly is a rather wide range in the number of employees as between hospitals of approximately the same size and volume of inpatient care.

These differences call for detailed examination by the hospitals themselves, since they seem to exceed what can be attributed to such variables as nursing schools versus non-nursing training, or large volume of outpatient work versus small volume of outpatient work.

In the figures which follow, the numbers represent equivalent full-time persons (i.e., where part-time personnel is utilized, the numbers of part-time people have been equated to a full-time working schedule).

Employees Devoted to Inpatient Operations
1962 Data

Six Hospitals in the range of 340 to 394 beds

The Employees range between 630 and 888 equivalent full-time persons (a 40% range)

Five Hospitals in the range of 279 to 293 beds
The Employees range between 436 and 695 equivalent full-time persons (a 59% range)
Three Hospitals in the range of 236 to 260 beds
The Employees range between 439 and 491 equivalent full-time persons (a 12% range)
Four Hospitals in the range of 184 to 200 beds
The Employees range between 296 and 473 equivalent full-time persons (a 60% range)
Three Hospitals in the range of 156 to 171 beds
The Employees range between 240 and 381 equivalent full-time persons (a 59% range)
Four Hospitals in the range of 124 to 139 beds
The Employees range between 169 and 278 equivalent full-time persons (a 65% range)
Four Hospitals in the range of 77 to 99 beds
The Employees range between 85 and 188 equivalent full-time persons (a 121% range)
Five Hospitals in the range of 60 to 67 beds
The Employees range between 56 and 98 equivalent full-time persons (a 75% range)
Four Hospitals in the range of 35 to 52 beds
The Employees range between 47 and 84 equivalent full-time persons (a 79% range)

It should be observed from the foregoing table that except for the two extremes there is generally a range of 40% to 79% in the size of the personnel complement to run hospitals of the same approximate size. The most typical range is about 60%. This seems too much.

When hospitals are grouped according to the full-time personnel per bed, one also finds such variations in *each* of the large hospital, medium-sized hospital, and small hospital groups. The large hospitals seem to require more personnel per bed than do the smaller ones, and indeed the city hospitals generally require more personnel per bed than do those located in the county; but even within this broad pattern, there is a substantial variation within each group in the number of employees per bed.

The Commission suggests that there is a fruitful field for analysis in this area of determining what is the appropriate personnel complement for a given hospital. It may be that the variations cited here permit of no improvement under existing methods, but even under those circumstances a simple review of why there are such variations may well produce a re-evaluation of the methods or policies now in force. Several of these are involved in the other areas of cost reduction which are being probed in this section of our Study.

b. *Operating Methods and Economies*

Much has been done to find more economical ways of operating. Much more remains to be done, and always will. The hospitals themselves both separately and in combination should be expected to apply substantial research efforts, utilizing the most modern and effective investigative methods, toward efficiency in operations.

The Commission asked for information on this subject. The examples of what has been done in recent years and is now being looked into are too numerous to mention here in detail, but they include:

(1) Studies to determine most effective nurse staffing for bed units.

(2) Improved mechanisms for distributing linen and disposable supplies to nursing units.

(3) Experimentation of the use of disposables of a wide variety of articles.

(4) Initiation of training programs to develop specialized aides, attendants, and technicians.

(5) Rearrangement of nursing duties so as to utilize trained licensed practical nurses and nurse's aides in addition to Registered Nurses.

(6) Grouping of patients by degree of illness and disease so as to maximize the utilization of nurses, materials and equipment.

(7) Use of nonprofessional personnel for certain functions so as to enable nurses and

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Equivalent Full-Time Employees Per Bed — Inpatient Operations 1962 Data for 42 Hospitals

Equivalent Full-Time Personnel Per Bed	*Number of Hospitals in the Group*	*Size of Hospital*
Over 3	1 Hospital	1—Over 400 Bed Group
2.4 or 2.5	4 Hospitals	1—Over 400 Bed Group 2—200-299 Bed Group 1—100-199 Bed Group
2.2 or 2.3	3 Hospitals	1—300-399 Bed Group 1—100-199 Bed Group 1— 50- 99 Bed Group
2.0 or 2.1	8 Hospitals	1—Over 400 Bed Group 2—300-399 Bed Group 2—200-299 Bed Group 2—100-199 Bed Group 1—Under 50 Bed Group
1.8 or 1.9	6 Hospitals	2—300-399 Bed Group 1—200-299 Bed Group 3—100-199 Bed Group
1.6 or 1.7	9 Hospitals	1—300-399 Bed Group 3—200-299 Bed Group 3— 50- 99 Bed Group 2—Under 50 Bed Group
1.4 or 1.5	5 Hospitals	1—200 Beds 2—100-199 Bed Group 2— 50- 99 Bed Group
1.2 or 1.3	3 Hospitals	1—100-199 Bed Group 1— 50- 99 Bed Group 1—Under 50 Bed Group
1.1 or below	3 Hospitals	3— 50- 99 Bed Group

professional personnel to concentrate on higher cost activities.

(8) Experimentation with ambulatory care techniques.

(9) Establishment of man-hour performance requirements for work categories which lend themselves to such measurements.

(10) Engineered work standards, and the employment of industrial engineering firms to undertake work measurement programs.

(11) Improved departmental organization and management.

(12) Reviews of work procedures, and the use of materials and equipment.

(13) Attempts to reduce labor turnover.

(14) Use of timesaving devices such as direct patient two-way communication systems, radio pagers, etc.

(15) Use of office machinery for the business offices, the medical records, the kitchens, and the supply centers.

(16) Use of all-electric beds, controlled by patients in order to reduce nurse calls.

(17) Use of dietary personnel to serve food in order to relieve the nursing personnel.

(18) Development of various pickup and delivery systems within the hospitals.

(19) Designing of floor wings large enough to operate efficiently at either 50% or 100% capacity.

(20) Rearranging supply centers so as to minimize traveling distance.

(21) Utilization of automatic stocking of supplies.

(22) Use of laborsaving equipment such as floor scrubbing machines, wall washing machines, office machines, etc.

(23) Group purchasing programs, jointly owned laundry, joint program to improve collections.

The list is only a partial one, but through it runs the broad current of (a) finding ways to use the scarce and expensive personnel in the most efficient way possible primarily by utilizing less skilled and less expensive personnel for operations that can be done equally well by the latter; (b) developing the most efficient use of personnel, whether by changing the patterns of work or by developing better work standards; (c) applying mechanical equipment wherever it results in more effective use of manpower and savings; and (d) endeavoring to find the most economical use of supplies and other materials.

Differences in opinion and differences in approach can be discerned by many details of these attempts to improve the efficiencies and economy of operations. This is to be expected where most of the hospitals are disassociated from one another, and it is encouraging when so many different approaches to the same problem are being attempted.

Some attention is apparently being given to the matter of drugs and solutions. The question of cost is considered second to the question of control of quality, in the interest of patient care; and thus many hospitals purchase drugs and solutions made under precise conditions rather than to prepare the drugs and solutions themselves. On the other hand, it has been pointed out by physicians and hospitals alike that substantially identical drugs can be substituted under uniform formularies for those purchased under proprietary brands, and at considerable saving. This is a matter which hospital administrators, professional staff and trustees alike should bring to a conclusion through action within individual hospitals, as well as through joint study with other hospitals.

c. *Unnecessary Laboratory and X-ray Tests*

Our findings from the material gathered during the Medical Audit, and also from current writings, indicate two items of significance.

(1) There are sincerely held and strong differences of opinion between the physicians themselves as to whether diagnostic tests are now being too freely called for by the attending physician, or by the hospital's house staff, and whether equally good diagnoses are not possible with lesser quantities of tests.

(2) A surprisingly low percentage of all the actually hospitalized cases in Maryland on March 12, 1963 were challenged by the approximately 600 reviewing physicians on the point of whether they believed too many X-rays or too many laboratory tests had been done.

The Commission recognizes that this is a problem in the art and technique of medical practice, and it is not competent to judge the matter. It does note that the Medical

and Chirurgical Faculty, speaking through the Chairman of its Council, believed the difference of opinion was ". . . really a reflection of methods and care rendered by physicians rather than numbers . . ." The Commission concludes that the physicians themselves should be asked to give further consideration to the matter of good practice in this area, and to assure themselves that the most sensible balance between good patient care and cost is being fostered.

d. *Professional Organization, House Staff Work, and Educational Programs*

The size of the Physician Staff in any given hospital, the manner in which it organizes itself, and the manner in which the physicians' work in a hospital is conducted depends primarily upon the size of the hospital, the volume of service it renders, and the variety of medical work done in that institution. In small institutions, the physicians who bring the patients to the hospital for treatment usually also perform, voluntarily, all such aspects of patient care required of the physicians; in larger hospitals much of such work is usually delegated to a staff of physicians who are paid by the hospital. In these larger ones, it is neither feasible for the admitting physician to perform all physician-patient-care work nor would a uniform degree of patient care be produced thereby; nor, furthermore, are there enough physicians available to run large hospitals in this way.

In these institutions—generally located in the larger centers of population—other ways have therefore been found to provide assistance to the corps of admitting physicians. A "House Staff" of licensed physicians, who are pursuing postgraduate work and who are paid by the hospitals, make examinations, take case histories, conduct accident room work, administer emergency treatments to all patients in the hospital, carry out or supervise the treatments prescribed by the admitting physician, assist at operations, assist in or operate clinics, make diagnostic tests, and the like. Of considerable importance, such physicians are expected to be available around the clock and at all times. Additionally, in these institutions, specialized and particularly qualified physicians are engaged to manage the highly technical diagnostic facilities and laboratories, to interpret the results of diagnostic tests, and to act as consultants in specific areas of medicine, surgery, and other fields. They also strive to devise and develop new procedures for the improvement of patient care, to perfect the new procedures and to teach the technical staff to apply them properly.

The operating expenses of a hospital are substantially affected by the manner in which this whole area of physician work is organized and handled. The financial arrangements by which these services are made available to the patient, or to the admitting physician, represent a major segment of hospital costs. Generally, they fall into three general classes. In the larger institutions the aggregate staff of physicians available at the hospital to care for the patients brought to it by admitting physicians is supplied by (a) paid department heads and specialists, and (b) a paid "House Staff" of licensed physicians engaged in further or "graduate" study, i.e., "interns" and "residents," working under the direction of specialists in an educational program that has been approved by the appropriate accreditation bodies affiliated with the American Medical Association, American College of Surgeons, and the American Hospital Association. As part of their graduate training these "House Staff" physicians also perform various phases of patient care.

In the larger teaching hospitals the education of the young physician is an end in itself —a well-proven one that would in itself justify the house staff methods; and while from this viewpoint the patient-care work performed is a by-product, the method does supply the work for which other physicians would have to be required.

In the smaller hospitals there are usually no such educational programs and no "House Staff" of interns and residents. Here the work in question is done either by the admitting physicians themselves or else by paid physicians on a part-time or consulting basis. Sometimes the admitting physicians themselves pay the "paid physician" just referred to. In the middle-sized group of hospitals, there may be educational programs and "House Staffs" of interns and residents, with department heads, who may or may not be paid, plus a varying quantity of specialized physicians paid for by the hospital to supplement the work of the admitting staff and to help the "House Staff." In some cases there is a variation of this method in which a hospital has no educational program of its own but will have rotating through its hospital several interns or residents supplied by other hospitals which do have teaching programs.

All general hospitals in Baltimore City except the very small ones maintain approved residency and intern educational programs, and in each of these hospitals there is a "House Staff" of such graduate-student physicians. There are also a number of paid department heads and paid specialists, though many of the department heads, specialists, and chiefs are *not* paid. In the county hospitals, all except three operate *without* approved educational programs, and they do not have the services of interns and residents except in a very few cases where a graduate student affiliated with another hospital serves on a rotating basis. The three county hospitals which do maintain educational programs are of the larger size, i.e., between 200 and 400 beds.

The reasons for this difference in method as between the city and the county hospitals apparently lie in two areas.

(1) Teaching programs are expensive to develop and maintain, and small hospitals (whether city or county) have neither the volume of work nor the size of personnel required to meet the minimum standards of an approved educational program. Also, there are not enough American-trained graduate students to staff all the hospitals in this manner.

(2) It probably is not necessary for every hospital to offer the full scale of medical services, and a waste of both manpower and facilities would be involved if every one were to attempt to offer a full scale of such services. With good transportation available, it is obviously a far better arrangement to have a limited number of hospitals with a wide spectrum of services, located in large cities, and a considerable number of smaller hospitals in less populated areas where the major part of the most commonly met hospital needs can be cared for.

While force of circumstances has in the main determined where educational programs are necessary and where they are not, there are two aspects about which too little is really known:

(1) For those hospitals which lie between the very large ones and the very small ones, it is not at all clear at what point of size or location a hospital should organize itself around the concept of intern and residency education programs.

(2) It appears to the Commission that there should be less costly ways of administering equally good educational programs than by the present method of having each such hospital maintain a full educational staff, curriculum, and organization.

(a) For those hospitals where a teaching program is not really necessary and where it is more costly than an alternate form of supplying the patient-care services of physicians, it may be necessary to evolve different employment arrangements involving physicians than are now in general use. It would in any event be desirable to evolve an agreement of opinion, as between hospital managements and the practicing physicians, about the propriety and wisdom of permitting physicians (other than graduate students) to function as hospital employees in handling patient-care work instead of furnishing such work as a collateral result of teaching or consulting activities. This matter is a difficult one, for there are strong views sincerely held on both sides of the question. Nevertheless, it seems to us that it would be fruitful to reconsider the basic relations under which a hospital could compensate a physician who performs or supervises patient-care services as an employee of the hospital, in the light of conditions which are in effect today and are likely to remain so for some time to come. These conditions, spelled out elsewhere in this Study, indicate that the public will use hospitals for a much greater part of their medical needs than heretofore.

(b) The Commission is not aware of any recent penetrating and well-rounded examination of the relationships which should exist between the medical schools and the various individual hospitals of the State in respect to the advanced training of physicians, i.e., in their graduate work. There has been and is now a shortage of such graduate students who are available for intern and residency work. The available supply is probably not allocated among the accredited hospitals in the best manner. It may be that duplication of teaching staffs and programs can be avoided, and that teaching material can be so utilized that equally good or better teaching results can be obtained at lower costs and with even better patient care. The Commission recommends that such studies be undertaken by a well-selected group which includes the viewpoints of the medical

schools, the hospitals, the teaching authorities, the medical profession, and the public.

(c) The effect on costs of these arrangements with physicians is substantial. The following material suggests this conclusion in two ways: (a) the larger the hospital and the more expensive its teaching program the higher are its operating costs per patient day; (b) while the evidence is not conclusive, it appears that the costs in hospitals with educational programs are appreciably higher than those without such programs. The evidence is not conclusive because the higher costs of hospitals in Baltimore City cannot be attributed solely to the difference in the educational program; it is true, however, that except in one case where direct comparisons can be made, the hospitals with the teaching programs operate at costs notably above comparably sized hospitals without such programs. (See exhibit showing Hospitals Classified According to Size, Cost, and Approved Educational Programs following.)

e. *Nursing Education*

Hospitals spend substantial sums in training nurses. For 1962, the net cost thereof to the 22 hospitals which do such training was $2,129,000 or an average of approximately $1 per patient day for those hospitals. It appears to the Commission that a substantial revision in the education of nurses needs to be made and that there may reasonably be expected from it an overall saving in cost, a probably better and more uniform grade of training, and a method of training which should be more attractive to the young women seeking to become nurses.

The Commission also believes that the education of nurses should be transferred to the educational system for other reasons as well. Several facts should first be noted.

(1) There is a very high rate of turnover in the full-time nursing personnel and thus the hospitals which operate nursing schools probably do not benefit from their teaching to the extent they should. The American Nurses Association and other studies have repeatedly found that large "drop out" losses during the training period are on the order of approximately 40% on the average and they, along with the U. S. Public Health Service, have found an annual turnover rate for all types of nursing personnel averaging over 50%; and one of such studies involving 51 general hospitals whose full-time nursing personnel totaled over 9,000 pointed out that half of the staff nurses who were on the payroll at the beginning of the year had left their jobs before the year ended.

Eleven hospitals in Baltimore supplied at the Commission's request the figures from which the following totals resulted:

Total number of graduates from the nursing schools conducted by these hospitals for the years 1953 through 1962 4,092

Number of graduates retained for

— 3 or more years ..... 541 or only 13%
— 5 or more years ..... 298 or only 7%
—10 or more years ..... 115 or only 3%

All graduates who returned to the hospitals' employ .... 683 or 16½%

The principal reasons for this high turnover rate include marriage, childbearing, return to their home communities, better jobs elsewhere, the moving of their families or their husbands to other communities. These are understandable, and hospitals could not effectively require an adequate tenure of service after completion of their training of the nurses even if they were disposed to attempt it.

Nevertheless, this fact of great movement from one institution to another makes it more reasonable to expect that the training process should be considered as part of the public educational system rather than a job that should be attempted by individual hospitals.

(2) A substantial fraction of those completing their nursing education do not work in general hospitals. The report of the U. S. Surgeon General's Consultant Group on Nursing reported that 3 out of 5 Professional Nurses serve on hospital staffs and 2 out of 5 do not; and only something over half of all Practical Nurses work in the general hospitals and thus nearly half do not. The remainder work as nurses in doctors' offices, in the Public Health Service, in schools, in private practice, in military service, etc.

This fact also suggests that the education of nurses should be a task of the educational system rather than of the individual hospitals.

Hospitals Classified According to Size, Cost, and Approved Educational Programs

	Average Cost Per Patient Day	Hospitals Located in Baltimore		Hospitals Located in the Counties	
		With Approved Residency and/or Intern Educational Programs	*Without Approved Educational Programs*	*With Approved Residency and/or Intern Educational Programs*	*Without Approved Educational Programs*
400 Beds and over	$43.86	3 Hospitals $42-48 Costs per day	.....	.....	.....
300-399 Beds	33.76	4 Hospitals 1-below $30 Costs per day 3-$37-38 Costs per day	.....	1 Hospital $30-31 Costs per day	1 Hospital $30-31 Costs per day
200-299 Beds	32.81	4 Hospitals $32-38 Costs per day	.....	2 Hospitals $31-38 Costs per day	3 Hospitals $27-32 Costs per day
100-199 Beds	31.80	6 Hospitals 2-below $30 Costs per day 3-$33-36 Costs per day 1-over $40 Costs per day	.....	.....	4 Hospitals $26-29 Costs per day
50-99 Beds	28.76	.....	1 Hospital above $30 Costs per day	.....	9 Hospitals 6-$23-28 Costs per day 3-$30-34 Costs per day
Under 50 Beds	30.03	.....	1 Hospital above $30 Costs per day	.....	4 Hospitals $23-28 Costs per day
Total Beds	$35.10				

(3) There is a substantial imbalance, in Maryland, at least, as between the kinds and grades of nurses who are educated by the hospitals in contrast with those who work in the hospitals.

A few years ago, Dr. Alan M. Chesney pointed out that the task of educating Professional Nurses in Maryland is almost exclusively borne by some, but by no means all, of the voluntary hospitals. He stated that in 1957, 562 women graduated as Registered Nurses from 22 Maryland hospitals; but of them only one (University of Maryland) was a governmental institution, and it graduated only 36 out of the 562. The other 526 were graduated from 18 voluntary hospitals or 3 other colleges. In the Baltimore area alone, 348 out of 392 were educated in the voluntary hospitals.

He also pointed out that voluntary hospitals accounted for slightly less than 1/5 of the total number of Licensed Practical Nurse graduates, while the remaining 4/5 were educated by 8 governmental institutions. Only 2 of these 8 institutions were general hospitals, and the remaining 6 were highly specialized institutions of which most dealt with mental illness.

Thus, he observed that the education of the Professional Nurse whose period of study extends over 3 years is largely a function of Maryland's voluntary general hospitals while the education of the Licensed Practical Nurse, whose period of study is considerably shorter, one year as a rule, is to a large extent carried on by hospitals owned and operated in the State of Maryland, most of which are specialized institutions.

Figures developed by the Maryland State Board of Examiners of Nurses as contained in their report for 1963 indicate that the same condition of imbalance still exists.

	1963	
	Enrolled	*Graduated*
Professional Nursing Students in Maryland		
3 Collegiate Schools (Columbia Union, St. Joseph's, University of Maryland)	667	120
Hospital Schools	2,077	569
(12 in Baltimore, 5 in Counties (of the 12 Baltimore hospitals, 2 are "Large Teaching," 7 are "Large City," and 3 are "Small City"; of the 5 County hospitals, 3 are in Western Maryland, 2 are on the Eastern Shore))		
Total Professional Nursing Students	2,744	689
Practical Nursing Students		
2 Baltimore City Hospitals) 5 County Hospitals) 3 Educational Institutions) (Carver, Mergenthaler, University of Maryland)	406	186

These figures indicate that the hospitals in 1963 were training nearly 7 times as many Professional Nurses as Practical Nurses and were graduating nearly 4 times as many Professional Nurses as Practical Nurses. At the same time, the report of the U. S. Surgeon General's Consultant Group on Nursing reports that for the country as a whole—and also in the Southern Atlantic States—the ratio of Professional Nurses in practice is only about 2-1/3 times the number of Practical Nurses in practice. The amount of educational effort given by the hospitals in comparison with the proportion of the graduates utilized by those hospitals which gave the education suggests that the efforts of the hospitals in this educational field need to be reoriented.

(4) The Maryland State Board of Examiners of Nurses in its 1963 Report notes a concern over the number of failures of candidates in the examinations, and states that "As Maryland continues to rank 38th in 50 jurisdictions, it is obvious that standard scores of those that do pass are not high." This Board also states that since its organization in June 1963, it has been approached by several of the junior and community colleges in Maryland concerning nursing courses which would lead to an Associate in Arts in Nursing, and it is supplying the needed information for establishing such courses. These courses would be of a 2-year duration conducted at the junior college level. The shorter two-year program is expected to appeal to the high school graduates not only because it leads to an Associate in Arts Degree, but also because it saves a year that produces income.

As to educational method, the training of the Registered Nurse has also been affected by the advances of medical knowledge and the complexities of the sciences, and consequent need to broaden the spectrum of nursing education. A shift from the apprentice-practitioner approach to that of academic student, whose clinical practice is obtained in the hospital setting, is involved.

The Commission commends the reappraisal

of method and content relating to nursing education which these professional groups are now making and believes it would be in the public interest to press the reappraisals to a useful conclusion.

(5) From the viewpoint of hospital costs, all the foregoing facts point to a question of public policy: the question is whether the training of nurses is primarily an educational function which should be borne by the educational processes of the State or whether it should be continued as a cost to be financed largely out of hospital charges levied against those who use the hospitals. The question has particular sharpness because (a) hospitals cannot expect, and do not get, lengthy service out of the students they train, and indeed a considerable fraction do not end up working for *any* hospital, (b) there is an imbalance between the expensive training for the Registered Nurse, which is being supplied primarily by the voluntary hospitals, and the lower cost training for the Licensed Practical Nurse, who is needed in quantity by the general hospital, (c) a better program for the education of nurses can be developed and expected to produce a more uniform and better grade of training as well as a more appealing one. The Commission also notes that there are nineteen different hospitals which operate nursing education schools—each presumably with the necessary staff of faculty, teaching facilities and programs; and thus it is at least questionable whether this proliferation is as efficient from a cost viewpoint as a more centralized program would be.

(6) The Commission concludes that (a) there is serious doubt that the money which Maryland hospitals are spending for training nurses is producing the kind of nurses which should be produced by them or that can be commensurate as a practical matter with the length of service obtained from the nurses they train, (b) a more uniform and, if possible, a better grade of training is desirable, and a revision of the design of the educational courses should be fostered including particularly the adoption of a competent two-year program, either in lieu of or in addition to the one- and three-year curricula, (c) the Commission suggests that the answer which would best serve the public interest both as to cost and as to training is a 3-way partnership between the Maryland State Board of Examiners of Nurses, the educational institutions (vocational schools as to Licensed Practical Nurses, junior colleges as to "Associate in Arts" Nurses, and the colleges as to Registered Nurses), and the hospitals of the State. Training under programs designed primarily by competent medical, hospital and technical professionals (including the State Board of Examiners of Nurses) and conducted cooperatively by the hospitals and the educational institutions seems to offer a much better arrangement than the present one, not only to increase the number who would be trained for this vital profession, and to obtain a more uniform, and indeed a higher standard of such training, but also because an allocation of the cost of such training against the educational process instead of against the patient needing hospital care may also be preferable from the public point of view.

f. *Technician Training*

The same general approach outlined for nursing education can also be applied to the training of medical technicians. The number of such technicians is now substantial and the importance of them in conducting hospital operations will become increasingly significant —even beyond their present importance.

A shortage of nurses, physicians and technical personnel has produced a competitive market of which hospitals are the victims. The need for specialized technical personnel has been given a tremendous impetus during the postwar years because of two broad developments. One of these has been the shortage of physician personnel for hospital "House Officer" work; the other has been the greatly advanced technology in the treatment of patients. Both have required greatly advanced skills in the handling of technical apparatus, tests and processes, and both have resulted in the assignment of duties to nurses and technicians which were formerly handled to a great extent by the physicians themselves. As examples: nurses are now permitted to give certain medications formerly given only by physicians. Electrocardiograms and X-ray films are taken almost entirely by technicians, though these readings are interpreted by physicians. Technicians substitute in operating room areas for nursing personnel. Technical workers also operate in such areas as oxygen therapy, EKG and EEG tests, and in physical therapy. In laboratories there are numerous new automatic machines used for blood chemistry and blood volume determinations; there is equipment for tagging blood cells; there are anesthesia ma-

chines, automatic respirators, apparatus for hypothermia, equipment for resuscitation, X-ray equipment for outlining blood vessels, apparatus for cinefluorography, heart defilibration apparatus, cardiac pacemakers, heat therapy, and various equipment of newer types. There are, of course, the more spectacular developments like the betatron, the artificial kidney, the cobalt bomb, and the like, although these are at present limited to only a few of the hospitals. For all of these, the technician is involved in varying degrees under supervision of the physician.

Again, the question of public policy here involved is whether the craft training should be considered a part of hospital costs to be borne by the sick person, or whether the costs thereof should be regarded as part of the educational process. The fact that technicians (as also nurses) cannot be required or necessarily expected to remain with the hospital which has trained them, adds to the reasonableness of doing so.

The training of them by the educational system is recommended.

g. *Beds assigned to pediatric cases*

Hospital administrators and medical staffs should be expected to address themselves cooperatively to the question of whether and when some reduction should be made in the beds reserved for this specific class of patient, and the training programs related thereto. The judgments expressed to the Commission, as outlined in an earlier section of this Study, suggest that such reductions may now be feasible.

h. *Reducing unpaid-for costs*

(1) *Those who cannot pay, nor are paid for as "Certified Medically Indigents"*

The Commission is aware that hospitals face a difficult problem in deciding in what cases and to what extent collection efforts should be pressed against those who come to the hospital for treatment and do not pay, but who are obviously of limited means. Many such persons are not "Certified Medically Indigent"; many come under urgent or emergency conditions; many are not "indigent" at all but have no sufficient financial margin because of customarily low income, or unemployment, or otherwise, and are therefore in understandably straitened circumstances. A particular group are those over 65 years in age, whose costs are about three times as much per person as the under 65, but for whom insurance protection is not available in large part and whose incomes are smaller.

It is reasonably clear in examining the statements of hospitals that a very substantial cost is now involved in caring for those people who cannot or do not pay. The details have been dealt with in another section of this Study.

The major portion of such costs must, for obvious reasons, be financed by the community—either as part of public welfare costs, or as part of charges made against all other paying groups, or through Community Fund and similar organized charity, or otherwise. It is also true that some of these unpaid-for costs could perhaps be collected through the application of greater collection efforts. In any event, better arrangements need to be evolved between local governments and the hospitals in respect to the costs of caring for those who are not properly classifiable under the present "Certified Medically Indigent" program.

The Commission is aware that this is a difficult community problem. Under present circumstances, however, where the capacity of the philanthropic system is not adequate to cope with both the rising volume and the rising costs of caring for those who cannot pay their bills in full, it may no longer be reasonable to expect that these unpaid-for costs must be assumed by those who do pay their bills.

This question should be probed jointly between the hospitals and the representatives of the State, local governments, and the relief agencies.

(2) *Much more accounting information is needed in this area*

The Commission and also its professional accounting consultant found that hospital accounting systems do not provide as much information as they should by which billings, uncollected sums, and costs can be appropriately matched for various groups of patients. Greater usable knowledge should be developed as to the groups from which the losses arise, particularly in two areas:

(a) *the various groups which do not pay the bills rendered, or which have the bills paid by someone in their behalf*

Aside from such obvious categories as

are suggested by the so-called "Chart of Accounts," segregated as to inpatient and outpatient categories, there is also a need to know what portion of the amounts billed are not collected from such groupings as:

1) non-Maryland residents;

2) residents of the State for more than an initial period (perhaps three years) and residents of less than the initial period;

3) persons who are not classifiable as indigent but who are unemployed or are otherwise in straitened circumstances, or who are low-income though not indigent, etc.;

4) the certified medically indigent;

5) insured persons: each of Blue Cross and commercially insured, and combinations thereof, together with data as to losses where the insurance does not cover the full bill;

6) uninsured patients;

7) the aged.

(b) *the costs applicable to significant groups of patients*

Particular attention should be given to the accounting methods which purport to allocate costs between outpatient and inpatient activities. It appears from simple inspection that outpatient activities were conducted at losses ranging from moderate to large in nearly all the hospitals in Baltimore City whereas in county hospitals they were conducted at no losses or only moderate ones, though it is not clear how much larger these losses were after allowing for the uncollected bills. It also appears that the larger the outpatient operations, the less favorable were the financial results. While these characteristics are not conclusive on the point, they could be reflecting a pricing system which does not know its costs adequately. More than simple accounting allocations are involved in arriving at correct answers as to what constitutes a sound *price structure* for outpatient work. The costing and pricing type of skill which is found in large industrial operations, particularly in industries where the proper treatment of joint costs is significant, is required.

Cost-finding determinations on an annual or other periodic basis are required for other groups of patients as well. The indigents are one such group, because of the continuing need to demonstrate to the State and local governments what are the correct costs for which reimbursement out of public funds is expected. Ward patients, semiprivate or private, as distinguished from each other, are others.

(c) An ability to match revenues from each significant patient group against soundly calculated costs for each group is essential to good financial controls. An ability to determine accurately the uncollected bills by significant classes of patients is also a part of an adequate financial control mechanism.

The Commission suggests that the hospitals ask for help from one or a group of accounting firms in devising useful and practical systems for the cost determinations and financial controls described here.

These suggestions are made because (a) the losses from services rendered but not paid for are probably the largest single category of expense which can and should properly be lifted from the bills of those hospital patients who do pay their bills, and (b) the steady expansion of social finance probably means that the load of such losses will become heavier in the future.

i. *Size of Hospitals*

We observe this general pattern in operating costs per day for inpatient work as related to the size of the hospital: the larger the hospital, the greater seems to be the average cost per day.

Inpatient Costs Per Inpatient Day—1962

400 beds and over	$43.86
300-399 beds	33.76
200-299 beds	32.81
100-199 beds	31.80
50- 99 beds	28.76
*Under 50 beds	30.03

*(The last-named figure is substantially affected by one small hospital which has very high costs per patient day. The remaining ones are on the order of $23 to $28 per day.)

Costs for county hospitals are generally lower than are the costs for comparably sized hospitals in Baltimore City. Larger hospitals, whether city or county, are usually prepared to handle more difficult and more varied cases than the smaller ones.

However, none of the figures suggest which

size of hospital is the most economical after giving due weight to differences in the services rendered. There is a suggestion that the so-called "Small City" group is perhaps too small. If the hospitals are grouped according to city and noncity, one may observe that the "Small City" group has costs about as large as the "Large City" group; one may also observe that the "Small County" group operates at a difference from the "Large County" group which is not present in the case of the comparably sized city hospitals.

	Baltimore City	*County*
Teaching Hospitals	$43.86	—
Large Hospitals	35.16	$30.93
Small Hospitals	35.74	27.64

A consensus on this point suggests that 300 beds should be the minimum size for a hospital under today's conditions. We are aware of only one basic study in this area (Brown), however. More investigations in this area seem to be needed, for the essential need is to obtain the best balance between bed capacity, staff capacity, and ancillary patient-care operations.

Only a suggestive conclusion can be drawn, but it would appear that study should be given by the hospitals themselves as to what is the optimum size, and also the minimum size for an efficient operation under today's conditions. Such conclusions will help in the design of new hospitals to replace older ones, or in the expansion of existing plants to more adequately sized ones; and it may induce mergers among the smaller institutions.

j. *Patient-Care Costs, and Community Costs*

As hospital costs and unpaid-for hospital services mount in volume beyond the capacity of the philanthropic mechanism to underwrite, an increasingly insistent question needs to be answered: How much of a hospital's cost should be paid for by the sick person as he uses the hospital, or by the well person through his prepayment or insurance arrangements—and how much should be paid for by the community?

A few examples may clarify this basic question.

> The full cost of caring for those adjudged unable to pay should, we think, be considered a community cost, and not a cost which other patients who do pay their bills should absorb; though in the application of this principle a more accurate determination of what is the proper cost and proper standard for indigent care is required than may presently be available.
>
> The cost of educating and training the physician and technician of tomorrow should perhaps be a community cost instead of a patient's hospital bill, to the extent that it exceeds the alternate cost of the services actually supplied by the persons in training.
>
> The cost of research is already being handled in a manner that it becomes neither a public nor a patient cost, as noted previously.

A substantial portion of a voluntary general hospital's total costs is traceable to the fact that it is ready, or tries to be ready, to receive any person at any time, for almost any sort of medical help required. Such costs may be termed "readiness to serve" expenses. They are best typified by the accident room or other emergency treatment facilities and the obstetrical delivery room; but the related diagnostic equipment, the staffs of nurses and physicians who are available around the clock are also involved. In a large sense, the rooms that are not occupied at off peaks, and all the staffs, operations, and equipment ancillary thereto, are also a "readiness to serve" cost.

The difference in costs between the voluntary or governmental nonprofit hospital, and the private or proprietary hospital operated for profit purposes, involves this difference in what service each type stands ready to have available to the public. Comparison between the functions of the two types of hospitals may thus serve to illustrate that the voluntary hospital does incur a type of cost which is not so much a cost of caring for the sick person as it is the price of a necessary part of the community's organization. Like fire protection the "readiness to serve" costs are not entirely to be considered as a cost of fighting a particular fire, or caring for a particular patient.

"Readiness to serve" costs are in fact communitywide costs, i.e., a sort of "community overhead." The question of public policy which is involved is whether such costs should be paid for entirely by the sick, i.e., those who use the hospital at one time or another, or whether such costs should be borne by the community at large. Under the latter policy, the hospital bills paid for by the patient would not only be lower but would be more closely related to the patient-care cost devoted to him.

The Commission is not unaware that pro-

posals to remove certain costs from the sick person's hospital bill and allocate them to the general community burdens, mean that what is lifted from one kind of bill must in effect be placed on another kind of bill. If nursing education, technician training, and standby costs are transferred to the general tax levy, there must be a willingness on the part of the public to defray these extra taxes. Thus, at bottom lies a question of community preference as to whether certain costs now incurred by hospitals are better defrayed by the community at large, or should be paid as part of the hospital bill.

The Commission does not suggest that a policy change of this magnitude should be adopted without considerable consideration; nor should it be adopted before other closer relations between hospitals and the community governments are developed, e.g., in such areas as voluntary community planning, or a sounder solution for handling the cost of hospital care to those unable to pay in full. It does recommend that consideration should be given to the proposal.

k. *Effective hospital utilization by the medical staff*

Better methods and better practice, as well as the correction of poor practice, are goals which should be sought constantly by the physicians who constitute the medical staff of a hospital. Hospital administrators and trustees should aid the medical staff to search for methods or tools by which critical self-examination may be aided, and more effective hospital utilization secured. With more effective hospital utilization, a more efficient cost structure should also result.

Two examples of newer methods which are being tried are described here for illustrative purposes:

(1) The "Professional Activity Study" is a reporting system based upon tabulating machine methods developed by the Commission on Professional and Hospital Activities (which is sponsored by American College of Physicians, American College of Surgeons, American Hospital Association, and others) of Battle Creek, Michigan. Each patient's case is so classified that significant analyses of results obtained can be developed by types of cases, procedures, and for each physician, hospital, and area. It thereby seeks to aid medical staffs in evaluating the quality of their own medical care. The Commission is advised that two hospitals in Maryland now use it.

(2) A recent development in Michigan whereby a medical staff may improve its methods and also improve the utilization of the hospital was described by Dr. Beverly C. Payne, a practicing internist in Ann Arbor, Michigan.* After defining "effective hospital utilization" as "that which admits the greatest number of patients who need admission and discharges them after the briefest hospital stays consistent with their needs, rendering to them all the services they need during hospitalization but no more," he describes a system of retrospective study of properly sampled cases measured against pre-established criteria for effective hospital utilization, according to each of a number of different and distinct diagnoses. On a hospital-by-hospital basis, the results of these studies are reviewed with the appropriate staff of the hospital, where discussion, criticism, and recommendations are developed.

Dr. Payne adds these descriptive observations:

> "It is to be noted that the concept of this audit committee is educational. It does not identify individual physicians. It is not a local representative of Blue Cross or other insurance carrier, nor does the report reach any but the hospital family staff and administration.
>
> "It is expected that after the staff members have been thoroughly acquainted with the criteria, subsequent reviews of the same diagnoses will demonstrate change in the present pattern of care within the hospital. Hopefully, we expect there will be fewer inappropriate admissions, less overstay or understay, and fewer of the deficiencies identified in the initial study . . .
>
> "It is becoming generally agreed that some form of control of hospital utilization is necessary. We submit that control must not interfere with adequate individual patient care. It should not arbitrarily restrict hospital beds to create an artificial scarcity. It should not create artificial economic barriers to prompt and adequate care. It should be concerned with underutilization of the hospital as well as overutilization. It must recognize the interdependence of

*Proceedings of Fifth Annual Symposium on Hospital Affairs, December 14-15, 1962 (Sponsorship of University of Chicago) at pages 19-23 of the Proceedings.

the quality of care and the economic aspect of health care. It should make use of the traditional concern of the physician for the adequacy of care for all patients. Using the techniques described here, physicians are uniquely capable of making objective evaluation of the quality or standards of care within the hospital. They must jealously guard this responsibility. Physicians are also better equipped to measure objectively the effectiveness of hospital utilization in an atmosphere free of compulsion, reprisals, or outside interference. Physicians are responsible for the care of all patients in the hospital, regardless of whether the patients pay their own bills, commercial insurance pays the bill, welfare agencies pay the bill, or Blue Cross pays the bill. The work of the audit committee should be subject to review by responsible agencies but not to stifling direction from outside influences. We feel that review of hospital utilization is an intramural task to be performed with self-evaluating motives. It may also be hoped that eventually a major share of the burden can be done with the help of mechanical computers."

These examples are only two of many newer experiments which seek to extend the discipline and the improvements in medical practice which is also the goal of the "tissue committees" and other medical reviews that have long been in use. The Commission particularly recommends an emphasis upon a search for and experimentation with such methods. It also recommends as a framework the concepts set forth in the last paragraph of Dr. Payne's quotation above. A joint research along these lines by administrators and physicians under the sponsorship of the Hospital Council and the Medical and Chirurgical Faculty should be considered.

By the very nature of it, it is inescapable that hospital costs are heavily affected by the actions and decisions of the physician in his treatment of the patient. Yet, those decisions must remain his to make. The proper balance between the best hospital utilization from a cost standpoint, and the best individual practice of medicine, is a goal which becomes insistently more imperative as cost levels rise. It is worthwhile spending much effort and money to strive for the right balance.

IX. Public Policy

SUMMARY

Several matters of public policy are discussed:

1. *"Where are the brakes on cost?"*

There are no automatic or self-applying brakes, such as apply to ordinary commerce, or to publicly regulated enterprises. But that is not to say there are no brakes. They lie in the will to make the hospital mechanism work well in the public interest. As to that test, the evidence is that notwithstanding the higher costs the public wants to make increasing use of the hospitals, rather than less.

2. *Should the public adopt methods to restrain the use of its general hospitals in order to hold down costs?*

(a) The notion of restricting the supply of hospital beds is not a sensible one and the Commission does not advocate it. (b) The theory that building other and less costly special purpose facilities as a method for reducing the demands upon general hospitals and thereby holding down costs is not at all proven and more experimentation in this area is required before a substantial outlay of funds is warranted. (c) The use of a deductible provision in Blue Cross policies has many advantages, but the disadvantages probably outweigh the proposal. There is much to say on either side of the question. The Commission concludes there is no clear superiority of the deductible or co-payment plan as a method of significantly affecting hospital costs, and suggests that the issue is one that may well be settled by the marketplace.

3. *Is a coordination of plans for hospital expansion desirable?*

Is a plan to avoid duplication of facilities and services desirable?

The Commission concludes that such coordination, and avoidance of duplication are quite desirable. It would be in the public interest to provide a planning agency for that purpose. It notes that much experimentation with hospital planning bodies has been done in other parts of the country. It suggests that the precise form, composition design, and functioning of the proposed planning should take into account the experience elsewhere; but it also concludes that the planning agency should be a voluntary project, cooperatively undertaken, broad in scope, and Statewide in its field of interest. The Commission recommends that the broad-based Council relating to all hospital matters, which it recommends be created, should devise and develop the planning agency here proposed as one of its functions.

4. *What is the balance between hospital service and hospital costs?*

This is probably the most fundamental of all the public policy questions to answer. The Commission observes that two powerful trends are moving at an accelerating pace: (a) the public is steadily increasing the use it is making of its hospitals, and a wider scope of services seems to be wanted (and probably *needed* as well), notwithstanding sharply rising costs; and (b) there is, and will be, a continued pressure to improve our health technology, to widen its application to more people, limited primarily only by the ability of our people to finance the improvements. "How much hospital service?" will be a continuing major factor in the question of "how much hospital cost?" The preface of the epochal Ray Lyman Wilbur report of 1932 suggests this has been the pattern for decades, and this Commission's findings thirty years later suggest it will be the pattern for some decades to come.

Several questions which lie in the field of public policy require comment as a result of our fact finding and interpretations thereof.

1. *"Where are the Brakes on Cost?"*

The "brakes" imposed on all commercial and industrial businesses are contained in the fact that if the price is so high that an alternative purchase can be made by the consumer, or the article or service in question can be foregone, then the product is not salable and the enterprise must either find ways to reduce its costs or it goes out of business. This is the competitive system. It is not applicable to the voluntary nonprofit hospital, nor to the governmentally run hospital.

The "brakes" imposed upon public utility services which the public *must* have, and for which the competitive system of controls has proven too costly as a device for controlling price, have been found in a system of public regulation, or via supply by government. The supply of water, energy (electricity, gas, steam), communication media, transportation media, are examples. Where these are supplied by nongovernmental business enterprises, such regulation can be effective because the safety of the investment made by the owners of the businesses, and the earnings allowed on such investment, depend upon the price which the regulatory authority allows the enterprise to charge for its service. This system is not effective in respect to hospitals: except for "proprietary" hospitals there is no "investment" which belongs to individuals, nor are there any "earnings" or "profits" accruing to individual owners.

Hospitals are "quasi-public utilities" in the sense that the public *must* have hospital services, and competition cannot be relied upon to regulate

their prices. But they differ because there is no profit motive which will tend to supply the public's need for adequate service, nor which provides a viable method for controlling the price of the service through public regulation. They also differ because hospitalization needs are not a "buy and sell" operation.

Governments can supply the hospital needs of the people, and perhaps can even take over the existing institutions; but neither of these facts has any bearing on the query "Where are the brakes on cost?"; they apply only to the query "*Who* applies the brakes?"

Thus, there are no "brakes" in the sense that competition, or public regulation, imposes them on all of the private business enterprises of the country.

The "brakes" lie primarily in the desire and the will on the part of all concerned to strike a balance between adequate facilities and patient care on the one hand, and costs to the patient on the other. "All concerned" means the public who use the hospitals, the physicians, the governmental bodies, and the private citizens who voluntarily undertake to provide effective hospitals.

If the public wants to use facilities to a greater extent, or "abuses" their use, or wants them more comfortable, or does not want to utilize them on weekends or holidays, then these factors increase the level of costs. Physicians have a substantial effect upon hospital costs as the result of their practices in admitting or retaining patients, the tests and procedures applied, and the arrangement by which hospital staff physician work is provided.

Governmental policies in respect to "relief" activities and the care of the indigent, insofar as these increase the load of unpaid-for costs in hospitals, obviously affect costs; so do their policies in building or operating their own city, county, or State institutions. If hospital trustees are not diligent, if they permit inefficient operations, or if they undertake expansions that are not as effectively planned from a community viewpoint as possible, costs are increased.

The "brakes" are therefore not automatic nor self-applying. But this is not to say that there are no brakes. The will to make the hospital mechanism *work well* in the public interest, constitutes the "brakes." By that test their effectiveness is most emphatically demonstrated by what the voluntary nonprofit system plus the governmental system have together accomplished on the positive side in making adequate facilities available, and in so operating them that the public wants to make increasing use of the hospitals, rather than less—and notwithstanding rising costs. We believe the effective answer is to continue the *cooperative* efforts made over the years, in Maryland and throughout the nation, to find better and more effective ways of coping with the cost problem.

Three concepts based on the notion of restraining the use of general hospitals, which are being developed out of public discussions and investigations throughout the country on the ground that hospital costs can be held down in that manner, are discussed in the succeeding section.

2. *Should the public adopt methods to restrain the use of its general hospitals in order to hold down hospital costs?*

Three broad ideas have been widely discussed:

a. *It has been proposed that the supply of new hospital beds should be held down and restricted* on the general ground that if a hospital bed is available the tendency will be to find uses for it. It seems to be based on the premises that (1) once the hospital and its beds are provided and staffed, the bulk of the operating costs continues whether the bed is filled or not, and hence there is more likelihood that marginal or unnecessary cases will be placed in hospitals, and (2) therefore, if the bed isn't available, it won't be used for cases that could be treated elsewhere or need not be treated at all, and hence costs will be kept down.

The Commission agrees that the first premise is probably correct. It believes the second premise is of questionable public wisdom, whether true or not. It believes the "control by restriction" is not the best way to get at the problem of preventing hospital facilities in unnecessary volume; the reasoning behind that concept is similar to the advocacy of poor roads so that less of the public's substance is spent on automobiles and travels, or to the advocacy of fewer obstetrical facilities so that childbirth will be performed at home as it was almost universally done earlier in this century instead of in hospitals, where almost all deliveries are now made.

The Commission does not advocate this approach. In passing, it also points out that it found less hospital beds in Maryland per thousand of population, and less days of hospital care per thousand, than in the country as a whole, or in this section of it, even without any previous efforts to restrict the supply by deliberate policy.

b. *Other facilities should be utilized as much as possible for the treatment of patients*, rather than the "general, short-term, acute" hospital. The two principal thrusts of proposals in this direction are first, that less costly facilities such as nursing homes, convalescent facilities, care-at-home plans, etc., should be used for recuperative needs, for long-term terminal illness, for the special problems of the aged; and second, that doctors' private offices should be utilized for diagnosis or treatment to a maximum feasible extent before hospital facilities are utilized. A related development now unfolding is the "group practice" clinic, such as the Eastpoint Medical Center in Baltimore, the "Kaiser Foundation Medical Care Program" which serves about 800,000 voluntary subscribers in the Pacific states and Hawaii, or New York's Health Insurance Plan.

The Commission concludes that much more experimentation will be needed before sufficiently sound facts and conclusions are available to warrant any substantial outlay of public funds for special facilities, as a device for lowering hospital costs in the aggregate. There is a substantial body of opinion that the cost involved for the new facilities would be substantially more than the economies in reducing the scope of the general hospital. Therefore, if such facilities are required for other reasons, they should for the present be justified on a basis other than supposed economy. It also believes that the effect and place of the "group practice" plans should be watched with great interest, for the idea has considerable potential. If such units do in fact provide a lower cost medical service to the public for that part of medical care which does not require the full-scale facilities and staff of a general hospital, it is even possible to visualize a significantly different combination structure of health facilities, consisting of many neighborhood or local area units working in cooperation with large general hospitals. However, the hope for lower *overall* costs to the patient has yet to be proven.

The appropriate division of patient care between doctors' offices and the hospital is not a question that the Commission can, or needs to, answer. We think the question of *where* diagnostic work or patient treatment is to be performed should be decided according to the needs of the case and the cost to the patient, rather than by the standard of who receives payment for the work done. There is no reason, per se, for avoiding the use of hospitals for either diagnostic or patient-care work where that seems to be the preferred solution. This must continue to be a case-by-case determination.

c. *A "deductible" provision should be inserted into all Blue Cross or similar insurance policies.* This concept is widely advocated. Its rationale is that the insured person will exercise more restraint in calling for hospital services if he must share in the cost before the insuring organization begins to pay his bills. Those who argue against it believe that the "deductible" merely shifts the cost of illness out of the insurance premium paid by the policyholder, and directly upon the policyholder in the form of a payment at time of sickness; hence while it offers an illusory lower premium rate it does not lower the cost to him of the care needed. To the claim that less medical care is demanded, they reply that denial of needed care is not a satisfactory answer.

Significant testimony from Australia suggests that the idea has much merit. Sir Earle Page, M.D., a practicing physician who has also been Commonwealth Treasurer, Minister of Health, and Deputy Prime Minister of Australia, has stated several relevant opinions based upon his great experiences with the Australian National Health Scheme, which includes a system of voluntary insurance. In isolated but compatible quotations he states:*

> "A serious danger to the permanence of the Scheme can come from the attempt to exploit illness for financial gain. . . . The terms . . . are that the total charge of care is always slightly higher than the combined contributions by the Commonwealth and insurance, so that the patient is also obliged to pay something, thus removing the likelihood of his being involved in fraud."

After describing the steps taken by the organized medical and pharmaceutical professions and insurance companies to prevent fraud, he says, "In the Australian plan both conscience and common sense provide more important protection against patient abuse."

However, in appraising the indemnity plan of insurance (i.e., the plan generally followed by commercial insurance companies in this country, where a deductible or a co-payment is involved) he states:

> "It has been pointed out that in Aus-

*The first three quotations are from "Financing Medical Care—An Appraisal of Foreign Programs" edited by Helmut Schoeck. The remaining three are from Dr. Page's book "What Price Medical Care—A Preventive Prescription for Private Medicine" (1960).

tralia we use the indemnity system of insurance, rather than the Blue Cross-Blue Shield method of providing services in return for the premiums paid. There are some doubtful elements in the indemnity plan, and it has created difficulties for which we have not found the full answer. But we feel that indemnity helps us to reduce abuses. The member of an Australian insurance society can easily measure what he gets for his money; he is not bothered by the suspicion that hospitals are overcharging for their services."

Elsewhere he states:

"In respect to abuses of medical services I find it significant that some Blue Cross Plans in America are experimenting with co-payment contracts. . . . It may be expected that an important outcome of the co-payment plan will be a reduction in the average stay in the hospital."

"My friends in the American Blue Cross are aware that considerable savings, which could mean lower rates, might be effected if the length of their subscribers' hospitalization were reduced to the necessary minimum. It should not surprise anyone that a medical plan which provides benefits only for hospitalized illnesses encourages some of its subscribers to use hospitals for comparatively trivial ailments."

As to the degree of abuse under the Australian Scheme, he reports that:

"I should admit that the System does not always work as well as it should, but mainly because people are involved in it and perfect people are very rare. There are some—fortunately a small minority—who abuse benefits or try to do so. Some are patients, some are doctors, which is explained by the fact that both doctors and patients are people."

Contrary evidence is suggested by the experience thus far of the Blue Cross Plans.

Mr. Reginald Dabney, Executive Director of Maryland Hospital Service, Inc., presented these facts:

(1) The majority of Blue Cross Plans already offer deductible plans. The Maryland Plan calls for a deductible of $25 for the first day and $50 for two or more days (for "Senior Citizens" it is $15 for the first day and $5 per day for the next 12 days, or $75 total).

(2) The volume of subscribers is practically nil: about 1% of eligible "nongroup" subscribers elected the plan in the year following its availability; in March 1963 a similar offer was made with a 26% rate differential, but only 5.6% of the eligible direct-pay subscribers selected it; continuous offerings to nongroup members indicate about a 2% acceptance rate, and among the group plans, those enrolled on deductible plans are less than one-third of one percent.

(3) "Blue Cross Plans generally have been slow to introduce these programs, and have probably not pushed their sale because of the conflict with the basic philosophy of service benefits and first-dollar coverage—benefits according to the needs of hospitalization, and not fixed dollars which may or may not cover a substantial portion of the hospital bill."

(4) The application of a $50 deductible against inpatient care would not eliminate any significant number of *inpatient* bills because less than ½ of 1% of inpatient hospital bills are under that amount. However, for outpatient bills about 85% of the bills are for less than $50.

(5) ". . . all Plans have found that deductible offerings, particularly to direct pay subscribers, invariably result in acceptance of the deductible by the younger, better-risk subscribers, with the older or poorer-risk subscribers continuing on or choosing the full coverage plan. Thus, if the deductible experiences show a lower utilization, it can be attributed to the better average risk of members enrolled. Obviously, voluntary offerings of deductible contracts can be dangerous to the extent they tend to concentrate the poorer risks in the full coverage program; this factor has been a real problem in a number of Blue Cross Plan areas."

It is Mr. Dabney's testimony that:

". . . it would be my judgment that a high level deductible, of $100 or more on every admission, would produce a lower rate of hospital use as compared with a first-dollar coverage. It would, however, be virtually impossible to sell except on a mandatory basis. It is my opinion that a $50 deductible, perhaps to a maximum of $75 spread over the first

> several days of hospital stay, will not have any significant or measurable effect on hospital admission rates, and no effect whatsoever on total hospital utilization as measured by admissions, use of services, and length of stay. . ."

A third evidence is available as the result of a well-known four-year study by Columbia University School of Public Health and Administrative Medicine, in cooperation with the National Opinion Research Center of the University of Chicago. It compared experience under (1) a Blue Cross-Blue Shield Plan (New Jersey) where full coverage for 120 days of inpatient hospitalization was given, (2) a comprehensive major medical plan covering employees of General Electric Company with a $25 deductible and an 85% reimbursement above $250, and (3) the Kaiser Foundation Health Plan in the San Francisco Bay area, a group practice plan under which full coverage for 111 days per illness was given.

The results per 100 individuals, under each of these three plans, excluding maternity care, were as follows:

	General Electric Plan	*Blue Cross (N.J.) Plan*	*Kaiser Health Foundation Plan*
Admissions, per 100 people	7.1	7.6	7.9
Days of Care, per 100 people	61	58	61
Average Length of Stay, per case	8.6 days	7.6 days	7.7 days

These results do not indicate that any savings at all were obtained in the number of days of hospital care given per 100 persons under the deductible plan, nor do they suggest that the type of plan had much (if any) effect upon the habits of the persons insured.

The Commission draws two conclusions from these facts and judgments.

First: there is no clear superiority of the deductible (or co-payment) plan over the full-pay plan as a method to effect a significant reduction of inpatient hospital care or in the costs thereof. Unless the amount of the deductible is so high as to unwisely discourage use, the deductible device is not an effective method for restricting the inpatient use of hospitals.

Second: the issue is one which may well be settled by the marketplace. If Blue Cross rates are forced too high because of their full-payment basis, and the commercial insurance companies can keep their rates much lower because of the deductible or co-payment provisions (along with their selection of more preferred risks), then the public will be required to make a choice as to whether the cost of assuming some portion of the hospital bill at the time of illness is preferable to paying the higher rate for Blue Cross coverage.

The Commission does not recommend any action by public agencies or by the State itself in this matter. It believes the marketplace will eventually settle the issue.

3. *Is a coordination of plans for hospital expansion desirable?*

   Is a plan to avoid duplication of facilities or services desirable?

a. There is a widespread belief that areawide planning is needed in the hospital field, for the two purposes of minimizing new construction that is either unneeded or poorly located, or preventing unnecessary duplication of services and special facilities.

Experiments with planning councils or coordinating groups have been under way in various parts of the country for a decade or longer. Some are based essentially upon a metropolitan area, such as the privately financed Hospital Planning Council for Metropolitan Chicago, or the Metropolitan Washington Health Facilities Planning Council, Inc.; some are regional, such as the Hospital Planning Association of Alleghany County (Pennsylvania); some are or were parts of Hospital Councils, such as the Washington organization previously mentioned, the Kansas City Area Hospital Association, Columbus, and elsewhere. In 1961 the California legislature established two regional planning councils. The Hospital Council of Greater New York became the Hospital Review and Planning Council of Southern New York in 1961 as the result of the so-called Trussell Report which recommended the formation of regional planning councils throughout that state. Seven regional councils were formed thereafter. That report went further, and proposed a State Hospital Review and Planning Council to which regional councils would in effect report. On April 22, 1964, there was enacted into law the so-called Metcalf-McCloskey regional planning bill; its practical effect is described as adding State sanction and some enforcement to a planning system.

b. As to Maryland itself: At the Commission's request, twenty-three of Maryland's hospital administrators expressed their judgments on the subject, and twenty-one of them stated they were in favor of some form of planning and only two were opposed. The suggestions about

form and details of a planning mechanism varied considerably, but the areas of agreement were substantial. There is wide concurrence in such concepts as these: planning on an areawide basis without regard for political jurisdictions; coordination of planning for health facilities so as to provide optimum health services without costly duplication; avoidance or elimination of the undersized, or badly located, or poorly sponsored institution; and cooperation between hospitals as to their individual roles; "orderly development." There is general agreement that the planning should be voluntary and cooperative, and not governmental, that it should be a joint-planning concept rather than a "control" method, and that coordination rather than a single set of plans should govern (as one administrator phrased it, a ". . . hope that it will not be so structured as to render impotent the deliberations of local groups. . . .").

c. The Commission concludes that it would be in the public interest to provide for effective coordination of hospital plans for new construction or major expansion of bed capacity, facilities, and programs. A planning agency should be created for this purpose. We suggest that it be a voluntary project, cooperatively undertaken, and broad in scope, and Statewide in its field of interest.

Elsewhere we suggest the creation and sponsorship of a voluntary Council broad enough in the scope of its assignment and in its membership to function as the focal point for handling and finding solutions for the many individual hospital matters which now find their way to a number of separate agencies, commissions, or groups. We propose that the exact design, composition, and functioning of a planning agency should be one of the tasks which the Council should undertake. We do not think that any State intervention such as was adopted in New York is necessary in Maryland, nor does Maryland have the tremendously diverse areas which may have made either legislation or separate regional councils necessary in New York.

4. *What is the balance between hospital service and hospital costs?*

Elsewhere in this Study attention has been called to the fact that the public is steadily increasing the use it is making of hospitals, and the trend which suggests that a wider scope of services is wanted from the hospitals rather than less, notwithstanding sharply rising costs. Actually these two trends have been in motion for a long time; perhaps it is only the tempo of the change which has changed over the last decade, along with the acceleration which the postwar inflation has exerted upon the cost curve.

We are inclined toward the conclusion that for a long time to come there will be a continued pressure to improve our health technology, to widen its application to more and more of our people, and that the upward pressure upon costs will be limited primarily by the ability of our people to finance the improvements. Two authoritative statements, more than a generation apart, may help place this basic problem of balance in perspective.

The milestone survey headed by Dr. Ray Lyman Wilbur in 1932 contains this paragraph from the report "Medical Care for the American People." Except for details, much of it could be written for today:

> "Yet medical science has made marvelous advances during the last fifty years. Following the work of Pasteur, Lister, and Koch remarkable progress has been made in controlling the communicable diseases, and the average length of life during this period has been greatly extended. Yellow fever and bubonic plague have been virtually eliminated in the United States. Typhoid fever and smallpox have been greatly curtailed. We have the knowledge, the techniques, the equipment, the institutions, and the trained personnel to make even greater advances during the next fifty years. We know how to do many things which we fail to do or do in an incomplete and often most unsatisfactory manner. As a result of our failure to utilize fully the results of scientific research, the people are not getting the service which they need—first, because in many cases its cost is beyond their reach, and second, because in many parts of the country it is not available. The costs of medical care have been the subject of much complaint. Furthermore, the various practitioners of medicine are being placed in an increasingly difficult position in respect to income and facilities with which to work. The report which follows presents many phases of these various problems."

Thirty years later Mr. Odin W. Anderson, Research Director of the Health Information Foundation (which is now affiliated with the University of Chicago) put the same essential matter in

these words, when speaking about "Trends in Hospital Use and their Public Policy Implications" before the Fifth Annual Symposium on Hospital Affairs (Chicago, December 14-15, 1962):

> "In 1872, for example, I would estimate that less than 4 persons per 1,000 were admitted to general hospitals in this country. By 1935, and during a depression, the admission rate was close to 60 per 1,000. Today the admission rate is approximately 130 per 1,000. It would seem that the exhortations of health education have borne fruit and we are now worried about the increased effective demand."

He then cogently phrases the public policy problem thus:

> *"Observations and Policy Implications*
>
> "There now appears to be a consensus that something must be done to contain the rising expenditures for hospital services. There is certainly no consensus as to how this should be done. . . . It appears that the health field is still in a free-wheeling period, but it must be better able to justify its activities than before. To do this, it appears that continuing research in all aspects is called for to reduce the margin of error if it can be reduced by research. When price and use reached new highs in recent years, the hospitals and the medical profession came under critical scrutiny and were, in effect, asked to justify these trends. The hospitals and the medical profession were in an indefensible position because even rather elementary data on cost and use were not available to throw light on what was happening. The health-services establishment has a tremendous reservoir of public good will, but more data are now needed to reveal the operation of the services so that intelligent policies can be formulated.
>
> "It would appear, then, that if we wish we can now appraise the various methods of financing and organizing services, because there is a range of different methods in operation in this country. *I think we are approaching the possibility of determining what effects various methods of organizing and financing services have on how tight or how generous a health-services system is. If we want a system with a hospital occupancy rate of 95 and an average waiting period of three months, such a system should obviously cost less than one with an occupancy rate of 75 and essentially no waiting period.* It seems to me that, at least, we can tidy up the loose ends of the going establishment, clean up the gross aspects. If we go further, we then run directly into consideration of personal conveniences, professional prerogatives, and similar matters which may have no inherent relationship to quality but can result in a tighter and less expensive system. In any case, the alternatives can be spelled out more clearly than they have been heretofore.
>
> "The quotations I read in the first part of this paper should encourage us to view constant change and expansion as inherent in a dynamic health-services system, and not something to view with undue alarm. As we learn more about the system, hopefully we will be able to help chart its course without stifling it."

APPENDIX

STATE OF MARYLAND INPATIENT PROGRAM

May 1964

This study was made to gather together in one place material relating to the history and operation of Maryland's unique Inpatient (often termed "Certified Medically Indigent") Program.

The figures used herein were taken primarily from State records and sources. They are for the State's fiscal-year periods, which differ from the fiscal years of most of the hospitals under study. Further, many of the figures relate to 37 hospitals and do not include the University, Bon Secours, and five smaller hospitals. For these reasons a number of figures cited in this Supplemental Study differ from comparable items for the 44 hospitals appearing in the main Study itself.

History

Since 1798, the State of Maryland has given financial assistance to various private institutions, including hospitals. Throughout the nineteenth century, grants for particular purposes were made directly by special acts of the Legislature.

A Board of State Aid and Charities was authorized in 1900, its purpose to recommend yearly appropriations for asylums, charitable and educational homes, hospitals, nurses, and military institutions. Beginning in fiscal year 1903, grants to voluntary hospitals were made a part of the general appropriation act and have been so continued to the present day.

Appropriations to institutions until 1940 were made as lump sums. Attempts were made to determine costs and to find an equitable basis for payment. In 1912, the Board computed the average per diem cost of hospitals at $1.67. This was adjusted to $1.25 per day after deducting for patient income and other public funds received by hospitals. Various revisions of the maximum per diem rate were specified in the appropriation acts. There is evidence that the number of days of care to charity patients at those rates far exceeded the appropriated amounts.

Beginning in 1939, payments to hospitals were based on the number of days' care each hospital rendered to eligible persons. In 1943 the individual determination of eligibility was initiated and income scales for medical indigency were adopted. A standard cost report from the hospitals was required. The maximum per diem payment to general hospitals was increased in several steps to $10.00 in 1947.

In 1949 the hospitalization program was transferred to the Department of Health, except for the certification of eligibles, which remained a function of Welfare. Since 1949, general features of the Program, administered by the Bureau of Medical Services and Hospitals in the State Health Department, have remained the same. There have been changes, however, in the amounts and formula for payment.

Beginning in 1955, policy was changed permitting payments out of local public funds to be considered supplemental to State payments instead of an offset. In 1958, a formula for payment to general hospitals was adopted providing a maximum payment per patient day of 60% of the Statewide weighted average cost of all participating hospitals. Effective January 1, 1960, the formula was changed, raising the ceiling on payment to 80% of the individual hospital's verified patient-day cost.

Description of the Inpatient Program

The Inpatient Program—acute care to inpatients in general hospitals—is a major element in the overall program for care of the sick poor in Maryland. By using the voluntary hospitals as the basic resource for acute care of the needy, the State and local governments have found it unnecessary to build extensive public hospital systems.

Essential features in the operation of the Program are:

1. Medical eligibility is determined by the referring physician, subject to general policies of the hospital and concurrence by the treating physician when the patient is not to be cared for by the referring physician. In emergencies and in hospitals with house staffs, the patient may be admitted without referral.

2. Financial eligibility is determined and certified by local welfare departments under standards, including income scales, concurred in

jointly by the State Department of Public Welfare and State Department of Health.

The income scales used as a basis for determining eligibility have not been adjusted since 1951. It is obvious that income scales established in 1951 have not kept pace with the changes in cost of living in the interim and are not adequate for 1964. The Department of Health and the Department of Welfare have discussed adjustments in the income scales and have recommended new scales, as follows:

	Metropolitan Counties			*Rural Counties*		
Family Size	*Current Scales*	*Proposed*	*Increase*	*Current Scales*	*Proposed*	*Increase*
1	$1,620	$1,800	$180	$1,500	$1,680	$180
2	2,220	2,280	60	2,100	2,160	60
3	2,520	2,640	120	2,400	2,520	120
4	2,880	2,940	60	2,700	2,850	150
5	3,180	3,480	300	3,000	3,240	240
6	3,480	3,900	420	3,300	3,660	360
—	300ea Add'l Person	420ea Add'l Person	—	300ea Add'l Person	420ea Add'l Person	—

The additional cost to the Program under the new income scales was calculated at $2,004,965.

3. The patients are ordinarily given ward care and receive such services of the hospital as are required.

4. Prior to January 1, 1960, authority for care at State expense was limited to 26 days from date of admission, but an extension could be obtained upon application to and approval by the State Department of Health. Since this date, payment of general hospital costs has been made for 3 days on welfare certification alone. Within these 3 days, the hospital must submit to the State Department of Health an admission notice, giving a provisional diagnosis and estimated period of hospitalization. A Department physician reviews and either approves or questions the number of days' care required for treatment of the diagnosed difficulty. A grace period of 3 days is allowed within the approval (i.e., an approved stay of 6 days could be extended to 9 days without loss by the hospital of reimbursement by the State). Extension procedures formerly in use still apply at the expiration of the originally authorized time. (The program operates under "Administrative Procedures for the Inpatient Program" adopted by the Board of Health and Mental Hygiene.)

5. Effective January 1, 1960, the State per diem payment to general hospitals became:

a. 80% of the individual hospital's average daily cost, with a floor of $13.00, or

b. Billings or cost if either is lower than the above.

6. The Inpatient Program carries, in the State budget, a lump-sum item which is broken into line items by the names of the participating hospitals under the Program Statement. The amount of the line item beginning with the fiscal year July 1, 1963 was calculated on the number of approved days of care rendered during the previous fiscal year projected to the current year, multiplied by the verified cost per patient day for the immediately previous fiscal year. Verified cost is provided by the Hospital Cost Analysis Service which, through actual review of hospital financial records, verifies the accuracy and appropriateness of costs reported by the hospitals.

The budget line item is broken into twelve segments made available to the hospital during the twelve months of the fiscal year. The segments are not equal but are based on the average number of approved days of care rendered monthly by each hospital during the previous three fiscal years. This insures the availability of funds to the end of the fiscal year and makes the funds available in reasonable relationship to the experience of the hospital.

Hospitals bill the State at discharge. The bills are accumulated for the month and at approximately the twentieth of the following month reimbursement is made up to the amount of the earnings by the hospital or funds available to that point in the fiscal year. If a hospital does not earn the available funds during any period, the balance of unearned funds is carried forward. Conversely, if a hospital overearns, the overearnings are carried forward. At the end of the fiscal year unearned balances are redistributed to hospitals which have overearned their line items on a prorated basis up to the total amount of earnings if funds are sufficient.

7. Hospitals are authorized and urged to make collections from the medically indigent patients and from any resources available to indigent or medically indigent patients from third-party payers such as insurance on liability, etc.

Hospitals are required to report collections on patients previously billed to the State. Under a formula which varies with the amount of local participation the hospital, the State, and the local government share such collections. The minimum a hospital retains is 20% of such collections and where there is no local participation the hospital retains 50%.

8. Local government units are encouraged to supplement State payments, but do so in varying degree.*

9. There is no contract between the hospitals

*See page 108

and the State covering this program. The hospitals participate voluntarily.

Experience

Statistical Highlights of the Inpatient Program from July 1, 1957 through June 30, 1963 are shown in Table I. (P. 105). The increase in the State appropriations for this Program from $3,131,211 in the fiscal year 1958 to $9,652,882 in 1963 reflects the increase in approved State days from 255,067 for the fiscal year 1958 to 386,145 in fiscal year 1963. The increase in the number of approved days includes those added by the Baltimore City Hospitals coming into the program in 1960. In the fiscal year 1963, Baltimore City Hospitals accounted for 71,106 days.

The percentage of the hospital days which were rendered to State-aided patients was consistently 13+% of the total through fiscal years 1958, 1959, 1960, and 1961. This indicates that the indigent and medically indigent patients are utilizing hospitals consistently with paying patients, the number of days increasing proportionately. The percentage of State-aided days increased to 17% of the total in 1962 and held at 16.6% in 1963. This coincided with the introduction of Medical Assistance for the Aged Program. This Program includes persons 65 years of age and over who previously had been eligible for State aid and others who became eligible under the more liberal income scales for the MAA Program.

Length of stay has an obvious bearing on the State's total expenditures. It was a matter of concern to State officials that State-aided patients tended to remain hospitalized 3-4 days longer than other patients and this led to the system of recertification described earlier. This system undoubtedly brought about the improved experience shown in the Statistical Highlights.

The average length of stay of State-aided patients except obstetrical cases is now about four days longer than that of all patients in participating hospitals. The continuing difference is undoubtedly due to the fact that the indigent and medically indigent patients tend to fall in older age groups, and with illnesses of the longer stay nature. A comparison between Blue Cross, State-aided, and all other patients as shown by a detailed statistical "Profile of the Certified Medically Indigent Patient" in Section VII of the Study bears this out.

	65 and over
Certified Medically Indigent	30.5% of total Indigent patients
Blue Cross Admissions	13.8% of total Blue Cross patients
All Other Patients	22.3% of total "All Other" patients

The State-aided patients have a longer stay than comparable Blue Cross and other patients, except obstetrical cases.

	Length of Stay in Days		
	All Except Obstetrical and Pediatric Patients	*Obstetrical Patients*	*Pediatric Patients*
Certified Medically Indigent	12.6 days	3.8 days	8.5 days
Blue Cross Admissions	8.7 days	3.6 days	4.6 days
All Other Patients	8.5 days	3.4 days	5.2 days

No detailed study of the State-aided patients has been made to determine the reasons for these differences. It is generally accepted, however, that the indigent and medically indigent patients as a rule are sicker, with a greater variety of ailments, since they do not seek medical assistance as readily. Furthermore, social reasons such as unfavorable home situations and a shortage of good nursing home facilities may delay the early or normal discharge of these patients.

A breakdown by age groups of the State-aided patients is shown in Table I-A. (P. 106)

The Financial Highlights (Table II, P. 107) show that hospitals were not fully reimbursed for their approved earnings in all except one of the fiscal years 1958 through 1963. A change in budgeting procedure instituted in the 1964 budget makes a partial correction for this deficit by projecting patient days through the current fiscal year; in previous years the budget had been based on the number of approved patient days through the previous fiscal year.

Noteworthy is the trend of deductible collections from various sources. The total deductible collections increased from $67,525 in the fiscal year 1958 to $248,390 in the fiscal year 1963. Gross collections total $419,528 of which the hospitals retained $121,483 and local subdivisions' monthly supplemental payments to hospitals were credited with $49,675.

Federal funds recovered by the State under the MAA Program and the Public Assistance Federally aided Medical Care Program in fiscal year 1963 amounted to approximately $1,330,745. The State budget for the Inpatient Program for fiscal year 1964 is $11,075,954, calculated on an estimated 400,000 general hospital patient days and 56,022 special hospital days for the year. It includes $25,000 for nursing home payments. For fiscal year 1965, the budget is $13,012,853 based on 422,532 general hospital patient days and 24,452 special hospital days.* This budget in-

*The differential in total days calculated for special hospitals is due to closing of Eudowood and transfer of Happy Hills and St. Gabriel's Home for Children to the Crippled Children's Program.

cludes $25,000 for payments to nursing homes and $17,000 for out-of-state payments for MAA clients.

How Adequate is the Program?

In recent years, Maryland's Inpatient Program has been considered one of the most progressive in the nation. Few states include the medically indigent in such programs; even fewer reimburse the hospitals on an equitable basis.

Detailed comparison with other states would be a difficult matter because of the complexities of the systems and the many local variations.

The following summary highlights the practices in some of the nearby states:

In one state, hospitals are reimbursed for the care of indigent patients (there is no program for medical indigents) on the basis of average daily cost, with a current ceiling of $27.32, which takes care of the majority of the hospitals in that state. The ceiling is adjusted annually. Payments are limited to 32 days per hospitalization.

In another state which purchases care at the rate of 80% of cost (with a $25 ceiling) for the first 10 days of hospitalization, 50% for the next 10 days, and 40% for a final 10-day period, the hospitals obviously lose considerable sums of money.

In one case, the state pays hospitals $550 per bed per year for maintenance of the hospitals. In addition, the counties appropriate varying amounts. In all, the hospitals received only $1,302,000 in 1963 against charges for indigent care of $3,002,000.

Compared with other nearby states, Maryland clearly reimburses its voluntary hospitals more adequately for the care of the indigent and medically indigent. The question is sometimes raised, how did the hospitals manage to get along despite the huge losses they had to absorb? The answer is that the hospitals are superficially "getting along," but that their financial plight is a serious one.

A hospital official in one of the states where low per diem reimbursements continued for years in the face of the rise in hospital costs estimated it would cost the hospitals $216,000,000 to replace obsolescent buildings housing hospital beds considered unsafe or unsatisfactory.

He said the reason these unsafe beds had not been replaced was that the hospitals spent so much money for the indigent and medically indigent patients, they could not rebuild or in some cases even buy much needed modern equipment.

Although the private paying patient's hospital bill had been increased in order to help pay for the ever-increasing load of indigent and medically indigent patients, this did not solve the whole problem. In addition, he pointed out that it unfairly shifts part of the load to sick people who are willing to pay a fair charge of their own hospitalization, but who should not be surcharged to take care of those unable to pay.

Concern over the problem of underfinancing of hospitals resulting from inadequate payments for indigent care is nationwide. Thus, the April 1964 issue of *Trustee* (a journal for hospital boards) contains an article by Pierre S. duPont entitled, "Needed: A Plan to Ease the Annual Indigent Care Deficit," in which Mr. duPont says:

> "Let me be quite blunt about it. Free services are taking an increasingly larger amount of hospital income—income that should be used for improvement, education, research, replacement of equipment, and expansion of facilities. All of these things are needed to carry out the modern concept of medical care. Therefore, if tax sources fail to reimburse Delaware hospitals for the medical care they give to the indigent, the hospitals will ultimately have to sacrifice higher quality of service for higher quantity."

What is true of Delaware is true of states across the country. Maryland, however, is one of the few notable exceptions. On its own merit, just how good is Maryland's program? Is it fair to the State? Is it fair to the hospitals?

Is the Program Equitable to the State?

This question may be broached through several subquestions: Is the present formula fair to the State? Are there adequate controls to assure the State it receives full value for dollars expended? Is this the best method to furnish hospital care to the State's indigent and medically indigent?

1. *Is the payment formula equitable?*

When the State adopted the concept of paying hospitals on the basis of their costs, the Reimbursable Cost Statement then in use (based on the Federal Emergency Material and Infant Care reimbursable cost formula of W. W. II) was continued. The present Cost Statement used by the State is essentially the same as that used by Blue Cross. Payments to the hospitals are paid on the basis of costs or charges, whichever is less. While Blue Cross pays full current cost as reported on these Statements, the State reimburses at 80% of the previous year's cost with local government supplementing in varying de-

grees. Certain items (notably bad debts, discounts and allowances, and the cost of research) are excluded in the Statement.

2. *Are the controls adequate?*

Two kinds of control available to the State (the HCAS and the administrative controls established by the Department of Health) have already been discussed. Reduction in the length of stay which has been effected points both to the need of the latter control and the fact that it is working. Additional controls might well result in an overly cumbersome administrative structure, and the results would be debatable. There is good reason to believe that the indigent patients receive the care they need and are discharged as soon as possible. Hospitals for some time have experienced heavy occupancies, resulting in strong pressures to make the most efficient use of existing facilities. Utilization Committees, first established in 1959-60, are becoming increasingly active, particularly in the larger hospitals which carry the heaviest indigent loads. Then, too, it should be remembered that the hospitals still lose money on indigent care. There is certainly no incentive to admit more patients, or to keep them longer, for financial reasons!

3. *What would be the alternatives?*

Short of diminishing the present method of reimbursing the hospitals (which would have a potentially disastrous effect on the hospitals' financial integrity), what alternatives exist?

Could Patient Loads be Shifted?

It is sometimes argued that the State could save money if more of the simple, uncomplicated cases could be referred to some of the lower cost general hospitals within the program. The idea is not only unworkable but also would involve a denial of part of the State's responsibility.

The proposal is unworkable because the lower cost hospitals are unable to absorb an appreciably greater number of State-aided patients. The community places other demands on them which they must meet. Furthermore, there is a limit to their financial resources, an important consideration in view of the fact that they do not recover full cost from the State. From a sociomedical viewpoint, such a proposal would tend to do away with the free choice of physician concept which underlies Maryland's Medical Care Program, and it would undoubtedly disrupt the established channels of providing care for this segment of the population. The mechanics of placing patients in hospitals throughout the State without consideration of the patient's locale poses a problem in itself.

From the viewpoint of the higher cost hospital, such a proposal would have serious repercussions. It would affect their financial picture, since they would presumably receive only the more complicated, hence costliest cases—resulting in a yet higher per diem cost. More serious would be the effect on their teaching programs, which constitute a major function of these hospitals. It is obvious that a budding physician needs to be exposed to the full range of medical ills to become proficient in his profession, not just to the complex and unusual.

This latter factor is undoubtedly of concern to the State. Maryland's resources of highly trained medical personnel, today and in the future, are more important than its resources in hospital buildings—which would be useless without the physicians to staff them. Further, the State must assume a share of the responsibility for the education of the future physicians. Insofar as the Inpatient Program assists in these training programs, the State is discharging this responsibility.

Could the State Render This Care More Economically Itself?

The answer to this question requires a statistical backdrop of the magnitude of the Program. During fiscal 1964, the total Program will involve approximately 500,000 patient days. Of these, 400,000 will be "purchased," and 100,000 will be given by University Hospital. Further breakdown may be of interest.

1. All but three of the 41 general hospitals from which the State purchases care are nonprofit voluntary institutions. The three exceptions are publicly owned: Baltimore City Hospitals (about 75,000 days), Prince George's General Hospital (about 25,000 days), and Garrett County Memorial Hospital (about 3,000 days). Thus, the bulk of this care is rendered in nonprofit voluntary hospitals.

2. About 83% of the indigent care rendered by University Hospital is free; for the other 17% collections are made. The money to pay for this care must come from general tax funds.

3. More than 50% of the 400,000 days of care rendered in the State's general hospitals is given in Baltimore City.

What Are the Alternatives to the Present System of Caring for the State Sick Poor?

1. *The State might consider the use of its chronic hospitals.* This would involve conversion to general use, and would simply create another

problem, namely what to do with the chronically ill.

2. *The State might direct that all University Hospital facilities be used for indigent care.* Aside from the fact that this would effectually destroy the function of University Hospital as a teaching institution, it would do little to solve the problem. In 1962, University Hospital rendered 162,000 patient days of care, of which 100,000 were indigent. The 62,000 additional days that could be given by this institution constitute less than one-fourth of the indigent days purchased in Baltimore hospitals alone.

3. *The State might construct its own system of general hospitals.* There would have to be at least three of these, geographically located so as to be fairly accessible to the indigent patients. This would be an extremely expensive undertaking. At 80% occupancy, 400,000 days would require some 1,350 general hospital beds, involving a capital outlay (at a cost of $30,000 per bed) of more than $40 millions. The cost to the State as a whole would not stop with this capital expenditure. Inevitably, building of three sizable general hospitals would entail unnecessary duplication of facilities and further competition for scarce professional personnel.

On the operating side, it is highly debatable that it would cost the State less to operate these institutions than the present appropriations for the Inpatient Program. Assuming that the quality of care would be on a par with that of voluntary hospitals (any other assumption would be unthinkable) the cost of operation would be quite comparable. Thus, University Hospital, Baltimore City Hospitals and Prince George's General Hospital have costs comparable to similar voluntary hospitals. (Of course, the State would be responsible for 100% of current costs in its own hospitals.) To arrive at an estimated cost of operating the hospitals, a rule of thumb may be applied, according to which operating expenses in 2-3 years equal building costs. Applying this rule, the annual operating cost for the 1,350 beds would range between $13 millions and $20 millions. The total outlay of funds required would unquestionably be higher for the State than the present one of reimbursing the voluntary hospitals for this care.

It is readily apparent from the above that the State has no practical alternative to its present system.

Is the Program Equitable to the Hospitals?

The report, "Administering Health Services in Maryland,"* made a number of observations regarding the Inpatient Program which are still valid. Regarding financing, the report observed in part:

> "The hospitals' principal concern, aside from their responsibility for providing good care, is with the total level of financial support for the program. In the recent past, this has been regarded as inadequate. The State formula effective in 1960—80% of individual hospital cost—is considered to be a major step in sound and equitable financing. Hospitals believe that in today's economy all groups of patients must pay substantially full cost for care. Despite exceptions, local governments generally in Maryland have not supplemented the State payment sufficiently to give hospitals close to full costs. Hospitals today are suffering from serious underfinancing which is threatening their ability to provide high quality services."

The experience of the intervening four years has confirmed the above quotation. The new method of payment has proved unquestionably beneficial, and many hospitals are in a noticeably stronger financial position as a result. It should not be assumed, however, that the program is without problems, as far as the hospitals are concerned. Losses continue to be suffered, for a number of reasons:

1. *Payments are made on the basis of year-old costs.* Hospital costs have been rising year by year. If, for example, the increase was 5% in a given year, the hospitals would have been paid not 80% but 76% of costs; if the increase was 10%, the hospital would have received not 80% but 72%. Since the political subdivisions that actually do pay on the basis of 20% pay on the same year-old cost, hospitals would receive in these illustrative cases a maximum of 95% or 90% of their costs instead of 100%, under otherwise perfect conditions.

2. *The inflexibilities of budgeting have resulted in inadequate appropriations.* As mentioned earlier (under the heading "Experience"), appropriations during the years 1960-63 were based on an inadequate number of days, resulting in substantial losses to the hospitals (Table III, P. 106). A method of projecting days which has been used for fiscal 1964 may partially eliminate these losses.

3. *County participation in the program continues to be inadequate.* Since the publication

*Maryland State Planning Commission, Committee on Medical Care—1960.

of the above-cited report, improvements have taken place, but many counties still fail to pay the hospitals 20% of cost (Table IV, P. 108). In addition, counties may subsidize hospitals within their own boundaries, but refuse to pay for their residents hospitalized elsewhere. Besides, counties without hospitals may provide no funds at all for the hospital care of their indigents and medical indigents. All these factors affect the hospitals to a varying degree, depending upon the area they serve; but together they constitute sizeable losses.

4. *Certification problems lead to "lost days."* This was mentioned in the above report of the Committee on Medical Care, and continues to be true. The administrative controls set up by the Department of Health contribute to this problem due to such human factors as being unable to have the responsible physician sign the necessary certificate in time. Most of the other problems cited in the above report still exist, and the report may be quoted verbatim:

> "Patients admitted as emergencies without certificates may be discharged and will not keep appointments with welfare for certification. Patients with Medical Care cards may not be eligible for the Inpatient Program, even though they remain on the Medical Care rolls until the end of the quarter in which they go off public assistance. Days are sometimes unavoidably lost because deadlines for application have expired. Patients may refuse nursing home or chronic hospital care but still remain in the general hospital. Although welfare workers make some hospital visits, they are not able generally to certify at the hospital. In some areas certifications from welfare are delayed for two or three weeks after application."

5. *Eligibility income scales render ineligible a number of people who are, for all purposes, medically indigent.* As mentioned earlier, eligibility scales have not been changed since 1951, despite increased living costs. Inevitably, certain patients become "charity cases" as a result, which is reflected in the accompanying table on current losses suffered by hospitals.

Conclusions

Maryland's Inpatient Program has much to recommend it. The Program enables the State to meet its obligations to its needy sick at a cost which is certainly smaller than would be entailed in a system of State hospitals. The hospitals, too, fare better in comparison with the past—or with neighboring states.

The Program unquestionably should be continued and strengthened even further. The underfinancing of hospitals, which was underscored in the report *Administering Health Services in Maryland* has been alleviated—but by no means eliminated. The partnership between the State and its voluntary hospitals has over the years brought great benefits in improved health care to the people of Maryland. Safeguarding the financial integrity of the voluntary hospital system will ensure the availability of high-quality hospital services in the future.

While the Program should be strengthened as proposed in the following paragraphs, the State and the hospitals share a common goal and obligation to utilize the available funds to best advantage. No further controls of the type described in the report are called for, but steps could be taken to accelerate the process of discharging the State-aided patients as soon as medically indicated.

Recommendations

1. *The hospitals should be paid on current costs.* The annual losses suffered by the hospitals due to the year-old cost payments should be eliminated. It is proposed that the "Time-lag formula" developed in Connecticut be studied as one method of accomplishing this.

2. *Compulsory local (county) matching payments should be studied.* Experience has shown that local governments do not uniformly volunteer the payment of the 20% differential between State payments and actual cost. It has been the responsibility of the hospitals to pursue this as zealously as they could and some success has been obtained. It appears that some local governments, particularly those which do not have hospitals, may never appropriate funds for this purpose unless compelled to do so.

The manner in which compulsory matching is set up would have to be given serious thought. A political body may refuse to provide matching funds and therefore disqualify their residents for the State payments. The stated conditions should also require that the local payment be made at any hospital where the residents are cared for to avoid the appropriation being restricted to the local hospital.

3. *Improved welfare grants for nursing home patients are recommended.* Length of stay of State-aided patients in hospitals and the total number of days they utilize are directly affected

by the availability of nursing home beds—and availability of these beds is in turn affected by the level of welfare grants. Maximum welfare grants for nursing home care currently are $135.00 per month, $131.50 of which is available for payment to the nursing home; some additional funds are available for special services. Nursing home costs, as determined by the Hospital Cost Analysis Service in a study of 60 nursing homes, average $6-$7 a day.

Since 1961, State grants have been available to public and nonprofit bodies for the construction of nursing homes intended primarily for persons of low income and welfare clients; these State grants supplement Federal (Hill-Burton) funds. The low welfare grants have discouraged potential sponsors of such nursing homes, because of the obvious built-in deficits they would incur. Thus, improved welfare grants, by encouraging the construction of nonprofit nursing homes, would speed up the discharge of a group of hospital patients for whom referral is now a slow—and costly—procedure.

4. *Early discharge planning is recommended to the hospitals.* In view of the difficulties under certain circumstances in locating a suitable available nursing home bed, it behooves the hospitals to initiate, as early after admission as possible, discharge planning for patients whom it appears will have placement problems when discharged from the hospital. A review of patients on admission would bring into focus such problems. On medically indigent patients an application for welfare grant for nursing home care should be initiated as early as it can be determined that nursing home placement may be needed. This will obviate the delay which occurs in some instances where the patient must remain in the general hospital bed for days and sometimes weeks while the Welfare Department makes an investigation to determine the patient's eligibility for a nursing home grant.

An increase in the amount of welfare grants for nursing home care is the most important factor in eliminating the prolonged stay of the patient in the hospital, and the resultant additional days paid by the State for such patients.

TABLE I*

MARYLAND STATE DEPARTMENT OF HEALTH

Bureau of Medical Services and Hospitals
Division of Hospital Services

Statistical Highlights of the Inpatient Program—General Hospitals*; by fiscal years from 1957-58 through 1962-63

	1957-58	1958-59	1959-60	1960-61	1961-62	1962-63
Appropriation—State Funds	$3,131,211(1)	$3,422,899	$4,461,069	$6,922,090	$8,279,710	$9,652,882
Per Diem ceiling payment	$13.00	$14.40	(2)	(2)	(2)	(3)
Verified per diem cost (All participating hospitals	$22.47	$23.93	$26.00	$27.88(6)	$30.71(6)	$34.36(6)
applicable to payment (Hospitals in Baltimore City	$23.63	$25.59	$28.06	$30.16(6)	$33.53(6)	$37.73(6)
(Hospitals in Counties	$20.62	$21.47	$23.00	$24.63	$26.78	$29.49
No. of State Aid Certificates issued by Dept. Public Welfare	21,655	24,466	25,491	33,357	38,555	40,024
No. of State Aided discharges	20,521	23,177	23,836	31,148	37,149	38,855
No. of Approved State Aided days	255,067	267,857	264,235	312,349	363,613	386,145
Av. length of stay—Discharged State Aided patients	12.5	11.6	11.1	10.0	9.8	10.0
Av. length of stay—All pts. in participating hospitals	7.9	7.8	7.7	8.2(6)	8.0(6)	8.2
Total days care rendered by participating hospitals	1,934,400	1,967,386	1,982,004	2,396,977(6)	2,314,122(6)	2,334,373(6)
% of total days care that were State Aided	13.2%	13.7%	13.2%	13.0%(6)	17.0%(6)	16.6%(6)
% of State Aided Discharges who were medically indigent	74.9%	74.2%	72.7%	74.6%	61.9%	56.8%
% of State Aided Discharges who were M.A.A.	—	—	—	—	11.8%(7)	15.3%
% of State Aided Discharges who were Colored	47.0%	47.5%	48.5%	53.4%	53.8%	52.7%
% of State Aided Discharges—residents of Baltimore City	45.8%	45.7%	45.4%	53.9%	56.5%	55.9%
% of State Aided Discharges staying 31 days or more	8.4%	7.3%(5)	6.8%(4)	5.9%(4)	5.7%	5.8%
% of State Aided days rendered by Baltimore City hospitals	62.7%	62.0%	63.4%	67.2%	68.3%	67.8%

— Data not available.
(1) Includes $26.00 insurance reimbursement.
(2) 80% of each individual hospital's cost, 2 years old.
(3) 80% of each individual hospital's cost, 1 year old.
(4) On and after January 1, 1960—extensions required for patients staying more than authorized time plus 3 days.
(5) From July 1, 1958—January 1, 1960—extensions required for patients staying over 26 days rather than over 30 days.
(6) Data from Baltimore City Hospitals (General) based on a calendar year January 1—December 31.
(7) First year of experience under the Medical Assistance for the Aged Program for eligible persons 65 years of age and over (Kerr-Mills).
* The data for "General Hospitals" shown here relate to 37 hospitals, which exclude University, Bon Secours, and five smaller institutions, and hence the data differ from other tabulations of this study which are based on 44 hospitals.

HOSPITAL OUTPATIENT PROGRAM

The State Health Department's Bureau of Medical Services also administers a hospital outpatient program. Under this program general hospitals are paid for services to needy, ambulatory patients. It fills the gap between services available under the Medical Care Program which includes physicians' home and office services, prescribed medications, etc., and the Inpatient Program which provides care to patients occupying beds in hospitals. The program is intended to provide those services which are beyond the scope of the physician's office and which, in the absence of this program, might require admission to a hospital as an inpatient. It also is intended to make possible the earlier discharge of patients from hospital beds with the assurance that follow-up care on an ambulatory basis will be provided. Expenditures for this program are modest when compared with the Inpatient Program involving, in fiscal year 1963, $376,080.00 of State funds with equal amounts expended by Baltimore City and the participating counties.

The Outpatient Program is complex because it was established after the county and city medical care programs which are administered under different administrative procedures had become operational and it is complementary to them. A committee has been actively at work studying the Outpatient Program with the objective of simplifying procedures yet retaining adequate controls to assure that patients receiving care under the program are eligible and hospitals are adequately reimbursed.

In preparing this report on Maryland's Inpatient Program and the brief description of the Hospital Outpatient Program, extensive use was made of material from "Administering Health Services in Maryland"—a report of the Subcommittee on Policies and Financing of Maryland's Medical and Hospital Programs, Committee on Medical Care. Maryland State Planning Commission. June 1960.

TABLE I-A

AVERAGE LENGTH OF STAY BY AGE
MARYLAND STATE-AIDED HOSPITAL
INPATIENT PROGRAM: 1962-1963

Age Group	*Statewide*	*Baltimore City*	*All Counties*
All Ages	10.01	10.11	9.89
Under 1 year	13.18	13.93	12.02
1- 4 years	8.34	8.85	7.79
5-17 years	6.05	6.12	5.95
17-24 years	4.52	4.48	4.58
25-44 years	7.88	8.07	7.59
45-64 years	14.86	15.81	13.73
65-74 years	15.03	15.78	14.30
75 years & over	14.85	15.32	14.48
Not Stated	7.29	5.38	9.12

—Prepared by Maryland State Department of Health, March, 1964

TABLE III

LOSSES INCURRED BY MARYLAND HOSPITALS ON INPATIENT PROGRAM, FISCAL 1958-1963 BECAUSE APPROPRIATIONS WERE PROVIDED FOR AN INADEQUATE NUMBER OF PATIENT DAYS

Baltimore City Hospitals

Baltimore City	$ 32,822.70
Baltimore E. E. T.	15,799.84
Church Home	52,729.33
Franklin Square	15,628.27
Women's	24,721.35
Johns Hopkins	149,469.48
Lutheran	22,363.81
Maryland General	96,608.35
Mercy	115,332.05
Presbyterian E. E. T.	5,494.76
Provident	15,573.85
St. Agnes	109,893.95
St. Joseph's	66,604.56
Sinai	198,341.44
South Baltimore	74,317.48
Union Memorial	125,565.68
	$1,121,266.90

County Hospitals

Anne Arundel	$ 50,861.63
Calvert County	11,806.72
Cambridge	29,888.22
Frederick	31,816.79
Garrett County	16,166.00
Harford	30,938.23
Kent & Queen Anne's	13,656.29
Eugene Leland	21,318.97
McCready	23,557.13
Cumberland	26,908.08
Easton	40,845.91
Montgomery	10,037.46
Peninsula	116,328.60
Physicians	5,549.71
Prince George's	187,935.71
Sacred Heart	16,205.17
St. Mary's	19,704.18
Suburban	44,238.34
Union of Cecil	15,108.51
Washington County	54,498.25
Washington Sanitarium	39,723.73
	$ 807,093.63
	$1,928,360.53

TABLE II

MARYLAND STATE DEPARTMENT OF HEALTH

Bureau of Medical Services and Hospitals
Division of Hospital Services

Financial Highlights of the Inpatient Program—General Hospitals; by fiscal years from 1957-58 through 1962-63

	1957-58	1958-59	1959-60	1960-61	1961-62	1962-63
Appropriation—State Funds	$3,131,211(1)	$3,422,899	$4,461,069	$6,922,090	$8,279,710	$9,652,882
Per diem ceiling payment	$13.00	$14.40	(2)	(2)	(2)	(3)
Approved State Aided Days Care	255,067	267,857	264,235	312,349	363,613	386,145
Approved Earnings	$3,313,475	$3,838,696	$4,733,463	$6,878,571	$8,911,797	$10,605,884
Deductible Patients Contributions	67,525	71,367	97,193	148,086	164,751	248,390
Payments from State funds	3,131,211	3,422,899	4,461,069	6,922,090	8,279,710	9,665,671
Overearnings (i.e., amounts due hospitals in excess of appropriations)	114,739	344,430	272,394	none	467,336	691,823
Per Diem—Approved Earnings	$12.99	$14.33	$17.91	$22.02	$24.51	$27.46
Deductible Patients Contributions	.26	.27	.37	.47	.45	.64
Payments from State funds	12.28	12.78	16.88	22.16	22.77	25.03
Overearnings	.45	1.29	1.03	none	1.29	1.79

(1) Includes $26.00 insurance reimbursement.
(2) 80% of each individual hospital's cost, 2 years old.
(3) 80% of each individual hospital's cost, 1 year old.
1/64/200

TABLE IV

Local Public Funds Paid to Hospitals Supplemental to State Payment for Inpatient Care[1]

Hospitals	*Locality*	*Amount*
15 Hospitals in Baltimore City	Baltimore City	$1,005,000
Payments by Baltimore County to 16 Hospitals in Baltimore City		124,516
Memorial at Cumberland	Allegany County	NONE
Miners Hospital	Allegany County	NONE
Sacred Heart	Allegany County	NONE
Anne Arundel General	Anne Arundel County	75,000
Calvert County Hospital	Calvert County	18,000
Carroll County General	Carroll County	NONE
Union Hospital of Cecil County	Cecil County	NONE
Physicians Memorial	Charles County	8,000
Cambridge-Maryland Hospital	Dorchester County	20,500
Frederick Memorial Hospital	Frederick County	15,000
Garrett County Memorial	Garrett County	25,000
Harford Memorial	Harford County	32,500
Kent and Queen Anne's Hospital	Kent County	12,500
Holy Cross	Montgomery County	8,000
Montgomery General	Montgomery County	13,280
Suburban Hospital	Montgomery County	46,136
Washington San. and Hospital	Montgomery County	5,496
Johns Hopkins (by Montgomery County)	Baltimore City	2,800
Eugene Leland Memorial	Prince George's County	NONE
Prince George's General	Prince George's County	176,787
St. Mary's Hospital	St. Mary's County	NONE
Edward W. McCready Hospital	Somerset County	12,000
Memorial Hospital at Easton	Talbot County	35,500
Washington County Hospital	Washington County	15,000
Peninsula General	Wicomico County	12,900
TOTAL paid to hospitals by local governments		$1,663,915
Amount absorbed by Baltimore City in behalf of Baltimore City Hospitals[2]		470,000
Total paid or absorbed		$2,133,915

[1]Reported by hospitals, covering most recent 12-month period for which information was available. Some hospitals received payments from more than one jurisdiction.

[2]Baltimore City absorbs in its budget for Baltimore City Hospitals (Eastern Avenue), 20% of the cost of care rendered patients eligible under the Inpatient Program. If all eligible patients in Baltimore City Hospitals were residents of Baltimore City, this contribution would amount to the equivalent of 25% of the State payment, or for fiscal year 1963, $484,445. To allow for nonresidents, this figure is rounded off to $470,000.

Data supplied by Maryland State Department of Health

SUPPLEMENTAL STUDY I

WHAT SHOULD BE EXPECTED OF A HOSPITAL TODAY BY ITS COMMUNITY?

(Committee Under Chairmanship of Mrs. Lewis Rumford, II)

An ad hoc subcommittee of the State of Maryland Commission to Study Hospital Costs directed its attention to the question "What should be expected of a hospital today by its community, what things should be changed, and what trends should be developed?"

The subcommittee was composed of representative, knowledgeable women from the Baltimore metropolitan area, Anne Arundel and Prince George's counties. None were closely connected with a general hospital other than through work in a hospital auxiliary; occupations and interests ranged from that of the housewife with numerous children to the businesswoman, school principal and social worker. Most of the group of fourteen had had a member of her immediate family as a hospital patient within the past two years.

The hospital's role as the focus for all health care services emerged with unconditional clarity. The expressed need was for a wide range of hospital-based services and the security of being able to reach medical help quickly. The group foresaw much greater use of emergency and outpatient facilities as the specialization of medicine intensifies and the difficulty of locating a doctor in his office increases.

The group wanted and expected hospitals to be more involved in the total rehabilitative field. There was recognition of the interrelation of social and physical needs and unusual clarity in the view of the group that overuse cannot be identified by applying only medical criteria to a human situation. On an outpatient basis there was the expressed hope that there would be more coordination between medical and social needs, and that identification with nursing homes be closer. There was interest in levels of care, extended care beds and home care that centers from the hospital.

The subcommittee was in agreement that if this enlarged concept of hospital-based services increased the cost of service, it was preferable to pay the increase rather than do with lesser services. In short, the hospital with its availability, professional talent and "readiness to serve" quality is being looked upon as a substitute for the comforting reassurance and availability of the old-time family physician, who worked in a less complicated society.

This attitude was underscored when the discussion turned to a plea that the hospital staff be more friendly and willing to take the time to explain processes to the patient and his family. There was recognition of the naturalness of fear in the face of illness or emergency and of the need of the individual for the reassurance of explanation and the comfort of the personal touch. It was felt that the medical profession, in and out of hospitals, should take more time to explain situations to patients and their families, for in the lay mind there is a natural ignorance of medical problems and a mystery which tends to cloak hospitals. This points to a need for better communications between hospitals and the public, and a greater understanding of what hospitals can and cannot do.

With recognition of the expanding role of hospitals in meeting the needs of the community came a deep concern for hospital planning. Research was felt to be important but it seemed expedient that it be centralized in one or two metropolitan centers with a free flow of information, talents and communication between neighboring institutions. Cooperation and sharing between institutions was deemed desirable on the premise that "every hospital does not need to have everything," regardless of institutional pride and competency.

In those suburban or rural areas which lack a hospital, there was expressed need of and interest in a clinic staffed by specialists and nurses and as completely equipped as possible. It was felt that such a clinic might lessen the demands on the nearest hospital, for when people cannot find a doctor they rush to the nearest emergency room for help. It was also thought that such a clinic might be profitable, for people in suburban areas could and probably would be willing to pay for the service.

In short, in view of the difficulty which a mobile society has imposed upon locating anyone at a given time, especially a doctor, and in view of the depersonalization which specialization in medicine tends to promote, the hospital, not the individual's personal physician, seems to emerge as the means by which medical and medically related social needs will be correlated in the future. The group felt that centralized medical knowledge, skills and services, given in an understanding manner and available by night or day, is what the patient is seeking and that, in today's world, it is the hospital, as the focus for health services, which will be the medium by which such need will be satisfied.

April, 1964

SUPPLEMENTAL STUDY II

RECOMMENDATIONS ON HOSPITAL ACCOUNTING AND REPORTING

by Touche, Ross, Bailey & Smart, Certified Public Accountants

February 21, 1964

The Commission to Study Hospital Costs
State of Maryland
State Office Building
Baltimore 2, Maryland

In our work for the Commission to Study Hospital Costs in the State of Maryland we were assigned the responsibility to collect and compile data on the income and expenses of Maryland short-stay general and special hospitals for analysis by the Commission. These income and expense data are presented in a separate report. The purpose of this report is to present to the Commission our comments on the types of hospital income and expense data available and to present some general recommendations on hospital accounting and reporting.

Types of Data Available. Under the leadership of the American Hospital Association a great deal of educational work has been accomplished in the area of developing hospital costs. The necessity for some uniform format of cost accounting to serve as a basis for Blue Cross payments to hospitals has also emphasized the accumulation of consistent cost data. Agencies such as Blue Cross and State agencies responsible for indigent care periodically review the cost records of individual hospitals as a basis for payment, thus providing to the hospitals the disciplining influence of outside review. As a consequence of these factors, hospital accounting for costs or expenses is generally very good when contrasted with that of many other industry groups.

On the other hand there appears to have been much less progress in effective accounting for income as opposed to the consistency in accounting for expenses. Although most of the hospitals follow accrual accounting procedures, there are significant gaps in this respect revealed by our study. Moreover, there is not the same degree of influence by outside agencies with regard to effective income accounting as there is in the case of accounting for expenses. We are not challenging the recording of total income by Maryland hospitals, but we do wish to point out the failure to maintain income data in a manner which would facilitate the matching of revenues and costs for purposes of analysis by patient groups or certain types of services.

In some hospitals income records do not provide for the separation of inpatient and outpatient revenues. In most of the Maryland short-stay general and special hospitals, revenues are not classified by patient groups such as Blue Cross and certified indigents, despite the fact that the extent of reimbursement, and hence the relationship of income to expenses, differs widely between these patient groups. A few hospitals in the study did not even maintain records of allowances by patient groups.

Financial Planning in Hospitals. The types of data which could be made available by the hospitals to the Commission lead us to certain inescapable conclusions about the degree of financial planning and control in use in hospitals generally.

Certainly the failure to record income by the sources of income, i.e., patient groups, and in some cases by types of income, i.e., inpatient and outpatient, indicates that these data are not being used as significant factors in the financial planning of hospitals. Although we are not in a position to express a documented viewpoint in this area, it seems clear that financial planning through the use of comprehensive budgets and related performance appraisal is weakened where there is a lack of data reflecting the matching of revenues and expenses by departments, by functions, by type of service or other comparable measures. Analyses of income versus cost by patient groups (e.g., Blue Cross) would also seem to be essential to management as a planning tool. This seems unfortunate in an environment of rising costs and the resultant need for increased income when the added effort to augment present basic data would appear to be minimal.

The data presented in our report to the Commission on hospital operating income and expenses indicate the importance to the individual hospital and to hospitals as a group of the question "who pays?". Failure to be aware of the implications of the allowances to patient groups, as shown in the report, could have a serious effect on hospital financial operations.

The allowances represent the differences be-

tween amounts billed and amounts collected, and are naturally affected by the billing or charge structure of the individual hospital as well as by the payment formulae applicable to various patient groups. Nevertheless, where patient groups pay only certain costs or pay less than 100% of costs, the burden of support of hospital operations must fall on other patient groups or the general public if hospitals are to remain (or become) solvent. The solution of this problem, to us, would seem to begin with the hospitals maintaining records which will permit an effective matching of revenues and costs by patient groups and by types of hospital service. The first step in this direction has been taken with the detailed cost accounting methods used by hospitals. The second step, which is yet to be taken, would be a similar program to standardize the recording of income.

A more detailed recording of income in addition to helping answer the question "who pays?", would also facilitate the comparison of hospital operations. For the individual hospital it would seem that a more detailed recording of income would facilitate the analysis of trends in the hospital's operations and also might well provide the basis for a more effective program for the collection of accounts receivable.

General. In voicing the above comments and suggestions it is not intended to allege that all hospitals are identical in their operating problems or environments. But for that matter, neither are the operating problems of the constituent companies in any industry identical. However, if broad categories are used as bases for comparison, much useful management information can be drawn from industry studies.

We are inclined to doubt that making a public record of hospital costs would have a salutary effect on controlling them. We are inclined toward the view that effective performance in public institutions can best be encouraged through education and leadership rather than the negative motivation of fear of adverse publicity. This, of course, does not go to the point of encouraging consistency in reporting which we believe to be essential if comparisons useful to management are to be made.

It seems worthwhile to make the point that in the rapid advance of data processing techniques many possibilities for combining quantitative and financial data for management use can and are being developed by many large and small businesses today that would not have been economic in the past. This idea has not escaped the leadership group in the Hospital Council as indicated by its recognition in the recently developed Chart of Accounts. However, we are not aware of what plans are being made to implement this idea through educational ventures which, as stated earlier, we believe to be the best approach.

It would indeed be surprising if the Commission found any single panacea to the financial problems of hospitals. However, with the present relative adequacy of expense data, the minimal effort required to achieve adequate income data, and the rich background of quantitative data common to most hospitals, the opportunities for improving financial management rather rapidly by a well conceived educational program based on modern concepts seem unusually promising, given the organization and leadership required.

(Signed) Touche, Ross, Bailey & Smart
Certified Public Accountants

SUPPLEMENTAL STUDY III

ADDED VIEWPOINTS

A number of plans, suggestions, criticisms, and ideas were voiced by different members over the long period of time this Commission has been functioning. Many of the suggestions are worthy of further study and should be brought to the attention of the interested parties. They have not been made findings or conclusions by this Commission nor have they been incorporated in the report. These are generalized comments relating to some matters and specific criticisms, suggestions and ideas relating to others.

1. *Dr. Louis A. M. Krause:*

In this country today, the central health questions revolve around the strong currents of rising expectations and the countercurrents of rising costs. Our growing problem is how best to bridge the gap between scientific knowledge and its application at the bedside and how best the advances of medical research and benefits of medical care can be made readily available to our expanding population. The social and economic aspects of these problems loom large; the acquisition of medical knowledge proceeds apace, but the distribution of benefits to the public generally becomes increasingly difficult.

Medical schools give far too little attention to such problems. The rallying cry for medical education today is for a solid base of science. Yet, "the real work of the doctor," said Spence, an excellent clinician, "is not an affair of health centers, or public clinics, or operating theaters, or laboratories, or hospital beds. The essential unit of medical practice occurs at the time when in the intimacy of the consulting room or the sickroom a person who is ill, or believes himself to be ill, seeks the advice of a doctor whom he trusts. This is a consultation, and all else in the practice of medicine derives from it." The danger of the medical school influence is that medicine may be taught by those who have no experience of this essential unit of medical practice. Thus we have the situation that medicine has kept its place in the universities of today, not through its humanism but through becoming a quasi-science, and the influence of the university has been to put it farther from, instead of nearer, the humanities.

Fortunately, most clinical scientists do not practice what they preach, but soon realize when they come into contact with a patient that science today can give only some help in determining the basic facts about the patient's illness. They often realize, too, that the mental, spiritual and emotional factors in illness may be far more important than the altered physiological functions which science can measure. This should be made clear to medical students in a much greater degree than it is.

The essential point is that there is an aspect of human behavior in health and disease which cannot be rationalized, but is emotional or spiritual, yet all-important.

2. *Alexander Stark:*

Hospitalization insurance means commercial insurance carriers as well as Blue Cross. The commercial insurance carriers are selective in their risks and in their bidding for group contracts. They avoid the overage groups, but Blue Cross by its very nature takes a much higher number of high-risk persons. It has been suggested that the commercial carriers agree to some sort of assigned risk pooling or that they be surcharged against premiums written in this State in order to develop a fund for the support of the communitywide function of Blue Cross or to offset the deficits incurred by hospitals. It has been suggested that a surcharge on all types of health insurance premiums written in this State would result in about 3/4 of a million dollars per year for such a fund. Obviously, such costs would be passed on to the policyholders and the question of action by insurance departments of other states against the Maryland companies under the various reciprocity agreements might militate against this proposal. Therefore, study must be made regarding the necessary statutory implementation and whether or not such an idea is worth exploring in any event.

3. *Philip Van Gelder:*

a. Hospital costs and Blue Cross costs are not the same thing. If a doctor hospitalizes a Blue Cross subscriber who does not need hospital treatment, this act tends to increase Blue Cross costs and rates, but not necessarily hospital costs and rates.

Hospital costs are increased by wage increases, additional personnel, and increased cost of services and supplies, not by increased use of available beds.

Blue Cross rates are dependent chiefly on the frequency of use of hospital beds and services, as well as on hospital costs per se.

Since Blue Cross provides benefits on a full-service basis, its rates will closely follow the increases in hospital costs. Commercial insurance, on the other hand, gearing its benefits to fixed dollar indemnities, ordinarily makes no pretense of covering the full hospital bill. In most cases the patient must pay some part of his bill over and above the indemnity dollars, and as hospital costs rise, it is the policyholder, not the insurance company, who has to pay more money. The net result is simply that the coverage becomes less valuable to the policyholder; the total cost of his care continues to go up.

b. The more Blue Cross is forced to meet the competition of commercial insurance companies by segregating special groups for merit-rated premiums, the more it departs from its original character as a community service agency which treats all alike; and the more it will be left—aside from the merit-rated groups—with the older class of citizens who utilize hospital services with the greatest frequency.

The rates could be forced up accordingly to the point where Blue Cross coverage would be completely out of reach for those citizens of Maryland who need it the most—not only those over 65 but also the middle-aged.

In the years immediately ahead the problem of the survival of Blue Cross in its present form will have to be faced and solved by its chief beneficiary—the general public.

4. *John A. Luetkemeyer:*

I am particularly struck with the thought that we could develop a continuing and prospective statistical system which would cover such things as stay of patients in the hospital, the type of patient care, and finally an analysis of the length of stay of each physician's patients . . . Separate prepaid medical care vs. postpaid, small vs. large hospital, and finally the individual physician and the type of case he handles. I just don't see how hospitals, doctors, administrators and individual physicians could face up to having posted on a bulletin board, week after week, statistics which might indicate they were not doing as good a job as their neighbor, or a similar physician in the same hospital. It seems to me this is a democratic process with certain sharp teeth built into it, without bureaucracy, and is a logical extension of the tissue committee function.

5. *Alexander Stark:*

a. It has been suggested as an incidental of our considerations that the State Insurance Department be requested to promulgate regulations standardizing the terminology and coverages of health insurance policies offered to the public. It appears that there are a considerable number of people who are under the sincere belief that they have much greater coverage than their policies afford to them, and thus, when actually faced with the cost of hospitalization, wind up consuming their cash reserves, or contribute to the size of uncollected billings, or wind up as certified medical indigents.

b. The Insurance Commissioner has been subjected to considerable public abuse for having granted increases to Blue Cross, but in fact, it is apparent that no insurance commissioner would have any alternative except to grant some increases. The difficulty at the outset is that the Insurance Commissioner has no mechanism to inquire into the costs of operation. In normal practice, if a casualty insurance carrier asks for an increase in its automobile rates, the Insurance Commissioner has available such data as the incidence of claims, the amount of claims, the amount of operating overhead, and all of the other items of the cost picture in order to inquire as to whether the company is, in fact, receiving a fair return as a result of its operations. However, the Insurance Commissioner can only receive from Blue Cross the fact that the hospitals have raised their rates and, since he cannot go into the validity of the rates charged by the hospitals, he has little choice in the matter. It seems important therefore to point out that the Maryland Hospital Service (Blue Cross) is not, in fact, an insurance company. It is a prepayment collection system. The Board of Directors is composed of representatives of the hospitals, the medical profession and, in theory, persons representing the public interest. The reported overhead or administrative expense is about four per cent of the premium dollars, which is a remarkably low figure. However, we do not know what this means in terms of actual salaries or fees paid to specific persons or categories of persons employed by the Blue Cross. This Commission has not deeply explored the structure of Blue Cross because even if a series of economy measures were put into effect as to the administrative practices of Blue Cross, it is apparent that their overall cost of operation could only be reduced by a fraction of a per cent. The real point of attack as to the cost of Blue Cross premiums has to be concerned with their raw material, that is, the rates charged to them by hospitals.

c. The Hospital Cost Analysis Service appears to be doing a creditable job in persuading the

hospitals to adopt uniform accounting practices and in getting them to report regularly as to their costs. However, it is suggested that the Hospital Cost Analysis Service could more emphatically report to each of the hospitals comparative data of its standing with its fellow hospitals under each subheading or category. In short, continuing opportunities for critical self-examination should be provided.

Since it seems to be customary in all reports of this nature, we also would include the suggestion that the public and its physicians curb any possible tendency to overuse of hospital facilities. However, in light of the natural human concern over one's immediate condition, it is obvious that this is no more than a prayerful admonition. We have demonstrated by intensive studies, that there is, in fact, no large area of abuse or over-utilization of hospital facilities. It is apparent that if all of the hindsight judgments where unnecessary use was suggested were regarded as accurate, this would have little effect on hospital costs.

d. It might not be amiss at this point to suggest some clarification of general public thinking as between what is a proprietary, or profit-making institution, and what is nonprofit. Blue Cross has historically declined to make payment to proprietary hospitals. Yet, a hospital could be nonprofit in structure and manage to pay disproportionate salaries to selected personnel. The same, of course, could also be true of nursing homes. In other words, the term "nonprofit" should not be taken to be necessarily synonymous with "eleemosynary," "charitable," or "public service." For example, most country clubs are nonprofit institutions, but are certainly not charitable or eleemosynary institutions. This is not to say that the current structure of most hospitals as "nonprofit institutions" is here questioned. In fact, all of these hospitals also fit the definition of eleemosynary or charitable institutions.

e. Discussion of all of these ideas by the Legislature and by the community at large is invited. Certainly, the discussion will lead to a proliferation of other ideas which may have more merit. The reading of these reports and supplemental memos makes clear why the Commission could not undertake to advocate one or more of the ideas suggested herein, for the adoption of many of these ideas that are suggested for further study. Some are necessarily predicated upon a complete reversal of traditional modes of thought, business practices and community behavior. The long course of our studies has educated all of us who served on the Commission, has forced many of us to discard long-cherished notions and ideas, and has taught us to regard new complexities which were not apparent when our work began. If the reading of our report can do this much for the public, our aim will have been achieved, for only from public discussion and governmental and legislative consideration, will final solutions appear.

MARYLAND HOSPITAL SURVEY

CONTENTS

MARYLAND HOSPITAL SURVEY
FINANCIAL SUMMARIES

Exhibit No. 1 - Income Accounts for 42 General Hospitals in Maryland and Separately for University Hospital and Baltimore City Hospital

Exhibit No. 2 - Total Operating Expenses Excluding Depreciation and Interest and Including Depreciation and Interest for Short Term General and Special Hospitals in Maryland

EXHIBIT NO. I

MARYLAND HOSPITAL SURVEY

INCOME ACCOUNTS FOR 42 GENERAL HOSPITALS IN MARYLAND, AND SEPARATELY FOR UNIVERSITY HOSPITAL AND BALTIMORE CITY HOSPITAL*
1962

	Total For All Hospitals Except University Hospital and Baltimore City Hospital*	2 Large Teaching Hosp. Excl. Univeraity Hoapital	7 Large City Hospitals Excl. Baltimore City Hospital	6 Smsll City Hospitala	7 Large County Hospitals	17 Small County Hospitsla	3 Smsll Specisl Hospitala
Groaa Income	$102,731,010	$25,726,737	$28,959,638	$12,222,585	$22,748,805	$11,405,880	$1,667,365
Leas: Allowancea and Uncollected Income	15,090,849	5,336,757	4,506,119	1,638,100	2,322,237	1,118,441	169,195
Grosa Income Lesa Allowances and Uncollected Income	87,640,161	20,389,980	24,453,519	10,584,485	20,426,568	10,287,439	1,498,170
Operating Expensea, Depreciation and Interest	90,542,356	22,618,940	24,450,009	10,905,892	20,376,778	10,462,155	1,728,582
Operating Income or (Loss)	(2,902,195)	(2,228,960)	3,510	(321,407)	49,790	(174,716)	(230,412)
Other Income:							
Contributions	760,729	190,085	221,799	10,374	146,992	188,802	2,677
Endowmenta, Appropriationa and Grants	2,485,452	1,894,615	—	100,000	220,468	80,538	189,831
Other Income, Less Other Expense	(65,624)	(904,012)	257,169	237,055	160,230	86,055	97,879
Total Net Help from Sources Other Than Hoapital Operations	3,180,557	1,180,688	478,968	347,429	527,690	355,395	290,387
Net Income or (Net Loss)	278,362	(1,048,272)	482,478	26,022	577,480	180,679	59,975
Significant Ratioa:							
% of Allowancea and Uncollected Income to Groaa Income	14.7	20.7	15.6	13.4	10.2	9.8	10.1
% of Operating Income to Gross Income	(2.8)	(8.7)	—	(2.6)	.2	(1.5)	(13.8)
% of Net Income to Groas Income	.3	(4.1)	1.7	.2	2.5	1.6	3.6

* The figures for 42 hoapitals exclude Univeraity Hospitsl snd Bsltimore City Hoapital because for theae Governmental inatitutiona the "Gross Income" snd, hence the "Opersting Loaa" reported by them (aggregating $3,899,103 and $2,898,645, reapectively,) are not atrictly comparable to the corresponding figurea for voluntary hoapitals. Figurea taken from official reports aupplied by these two hospitala for the Fiacal Year ended June 30, 1962 and the year ended December 31, 1962, reapectively are:

Gross Income	$12,816,589
Allowances and Uncollected Income	6,116,728
Grosa Income leaa Allowances and Uncollected Income	6,699,861
Operating Expenses including Depreciation	13,497,609
Operating Income or (Loss)	(6,797,748)

EXHIBIT NO. 2

MARYLAND HOSPITAL SURVEY

TOTAL OPERATING EXPENSES EXCLUDING DEPRECIATION AND INTEREST FOR SHORT TERM GENERAL AND SPECIAL HOSPITALS IN MARYLAND

Type of Hospital	1953			1958			1962		
	Salaries	Other	Total	Salaries	Other	Total	Salaries	Other	Total
3 Large Teaching	$ 9,047,151	$ 4,511,685	$13,558,836	$14,980,097	$ 6,622,753	$21,602,850	$21,295,447	$ 9,596,549	$30,891,996
8 Large City	6,729,914	3,570,153	10,300,067	11,785,425	5,405,332	17,190,757	19,134,198	8,539,239	27,673,437
6 Small City	3,118,550	1,667,301	4,785,851	5,332,574	2,767,495	8,100,069	7,360,279	3,253,399	10,613,678
7 Large County	4,136,921	2,762,111	6,899,032	8,056,499	4,917,590	12,974,089	12,846,188	6,558,415	19,404,603
12 Small County	1,896,123	1,125,054	3,021,177	3,217,800	1,795,682	5,013,482	4,978,380	2,476,351	7,454,731
3 Special	433,653	271,006	704,659	727,927	357,304	1,085,231	1,043,610	571,014	1,614,624
Total 39 Hospitals With Comparable Data For 3 Years	$25,362,312	$13,907,310	$39,269,622	$44,100,322	$21,866,156	$65,966,478	$66,658,102	$30,994,967	$97,653,069
5 Small County Hospitals The Data From Which Are Not Complete For All 3 Years				85,761	40,785	126,546	1,449,073	818,566	2,267,639
Total 40 Hospitals In 1958 And 44 Hospitals In 1962				$44,186,083	$21,906,941	$66,093,024	$68,107,175	$31,813,533	$99,920,708

TOTAL OPERATING EXPENSES INCLUDING DEPRECIATION AND INTEREST FOR SHORT TERM GENERAL AND SPECIAL HOSPITALS IN MARYLAND

Type of Hospital	1953			1958			1962		
	Salaries	Other	Total	Salaries	Other	Total	Salaries	Other	Total
3 Large Teaching	$ 9,047,151	$ 5,326,793	$14,373,944	$14,980,097	$ 7,906,566	$22,886,663	$21,295,447	$11,239,521	$ 32,534,968
8 Large City	6,729,914	3,910,187	10,640,101	11,785,425	6,012,246	17,797,671	19,134,198	10,370,008	29,504,206
6 Small City	3,118,550	1,860,106	4,978,656	5,332,574	3,024,096	8,356,670	7,360,279	3,583,717	10,943,996
7 Large County	4,136,921	3,168,518	7,305,439	8,056,499	5,543,427	13,599,926	12,846,188	7,524,861	20,371,049
12 Small County	1,896,123	1,330,733	3,226,856	3,217,800	2,107,408	5,325,208	4,978,380	2,894,072	7,872,452
3 Special	433,653	278,319	711,972	727,927	411,832	1,139,759	1,043,610	654,972	1,698,582
Total 39 Hospitals With Comparable Data For 3 Yenrs	$25,362,312	$15,874,656	$41,236,968	$44,100,322	$25,005,575	$69,105,897	$66,658,102	$36,267,151	$102,925,253
5 Small County Hospitals The Data From Which Are Not Complete For All 3 Years				85,761	49,489	135,250	1,449,073	984,442	2,433,515
Total 40 Hospitals In 1958 And 44 Hospitals In 1962				$44,186,083	$25,055,064	$69,241,147	$68,107,175	$37,251,593	$105,358,768

MARYLAND HOSPITAL SURVEY

USAGE OF FACILITIES, COSTS PER DAY, LENGTH OF STAY

Exhibit No. 3 - Data for 39 Hospitals - 1953, 1958 and 1962 and for 44 Hospitals in 1962
1. Expenses, Patient Days, Admissions and Beds
2. Comparable Data for Various Sizes of these 39 Hospitals and Data for 44 Hospitals in total for 1962

Exhibit No. 4 - Usage of Hospital Bed Facilities - 1953, 1958 and 1962 and 44 Hospitals in 1962
1. Average Length of Stay - by Type of Hospital
2. Average Length of Stay - by Type of Accommodation
3. Average Length of Stay - by Type of Case
4. Use of Beds - ("Occupancy Factor") - by Type of Hospital
5. Use of Beds - ("Occupancy Factor") - by Type of Medical Service

Exhibit No. 5- Maryland Characteristics versus National Characteristics
1. Three Significant Relationships - 1962
   a. Beds available per 1000 population
   b. Admissions (inpatient) to Hospitals per 1000 population
   c. Days of Hospital Care (inpatient) per 1000 population
2. Size of Hospitals - 1962
   a. Percent of beds in Hospitals of a size under 200 beds, from 200 to 399 beds and over 400 beds to total beds
   b. Percent of Admissions into Hospitals with less than 200 beds to total admissions
3. Comparative Figures - 1953-1962
   a. Population, Beds, Admissions, Use of Beds ("Occupancy Factor"), Average Length of Stay and Full-Time Personnel for 100 Average Daily Patients

Exhibit No. 6 - Trends Since 1953 - Maryland versus U. S. A.
Beds, Admissions, Use of Beds ("Occupancy Factor"), Average Length of Stay, Full Time Personnel per 100 Average Daily Patients and Operating Costs per Inpatient Day

Exhibit No. 7 - Usage of Hospital Facilities
Population in Maryland, Hospital Beds Available, Admissions, Patient Days, Accident Room and Emergency Visits, Surgery Cases Performed, etc., for 1953, 1958 and 1962.

Exhibit No. 8 - Is there excessive bed capacity in Maryland's General Hospitals?
1. Maryland, in Comparison with U. S. A. as a Whole, for the Year 1962
2. Degree to which Beds are Used, Expressed as a Percentage of Total Possible Time They Could be Used ("Occupancy Factor")
3. Actual Occupancies at Various Times during 1962
   a. Occupancy Factor at Time of Maximum Load
   b. Occupancy Factor at Time of Minimum Load
   c. Number of Days in the Year 1962 when 80% or more of the Beds were Occupied
   d. Number of Days in the Year 1962 when 90% or more of the Beds were Occupied

Exhibit No. 9 - Admissions, Beds, and Patient Days, 1953, 1958 and 1962
Admissions and Patient Days by Service and Accommodation, Patient Days per Admission by Service and Accommodation and Occupancy Percent

EXHIBIT NO. 3

MARYLAND HOSPITAL SURVEY

DATA FOR THE SAME 39 HOSPITALS FOR THE YEARS 1953, 1958 AND 1962
AND FOR 44 HOSPITALS FOR THE YEAR 1962

1. Expenses, Patient Days, Admissions and Beds

39 Hospitals	Operating Expenses: Salaries	Operating Expenses: Total (Incl. Depr.& Int.)	Patient Days (Inpatients Only)	Admissions	Beds	Expenses per Inpstient dsy: Salaries	Expenses per Inpstient dsy: Total	Days of Stay, per Admission	Occupsncy Factor
1953									
Total Costs	$25,362,000	$ 41,237,000							
Inpatient portion		37,377,000	1,933,000	230,000	7,161	$11.87	$19.34	8.4 days	74.0%
1958									
Total Costs	$44,100,000	$ 69,106,000							
Inpatient portion		62,243,000	2,295,000	282,000	7,782	17.27	27.12	8.1	80.8%
1962									
Total Costs	$66,658,000	$102,925,000							
Inpatient portion		91,614,000	2,591,000	315,000	8,908	22.88	35.35	8.2	79.7%
Change between 1953 and 1962									
Total Costs	$41,296,000	$ 61,688,000							
Inpatient Costs		54,237,000	658,000	85,000	1,747	+$11.01	+$15.01	−.2 day	5.7%
	(+162.8%)	(+149.6%)	(+34.0%)	(+37.0%)	(+24.4%)	(+92.8%)	(+82.8%)	(Improve-ment)	(Improve-ment)
44 Hospitals									
1962									
Total Costs	$68,107,000	$105,359,000							
Inpatient portion		93,896,000	2,675,000	326,000	9,224	$22.66	$35.10	8.2 days	79.5%

Notes: (1) Increases in Salaries represented 66.4% of the aggregate increase in Total Operating Expenses.
(2) Population in Maryland increased 26.5% from 1953 to 1962.

2. Comparable Dats for various sizes of these 39 Hospitals

	Inpatient Expenses Per Inpatient Day			Days of Stay Per Admission			Occupancy Factor		
	1953	1958	1962	1953	1958	1962	1953	1958	1962
3 Large Teaching Hospitals	$23.98	$34.04	$43.86	11.0 days	10.6 days	10.7 days	80.0%	82.2%	79.7%
8 Large City Hospitals	17.49	25.16	35.16	9.2	9.0	9.0	76.3%	83.3%	80.7%
6 Small City Hospitals	19.84	26.63	35.74	7.4	7.5	7.7	69.5%	85.2%	80.8%
7 Large County Hospitals	17.78	24.95	30.93	7.4	7.1	7.0	75.7%	84.1%	83.1%
12 Small County Hospitals*	16.84	22.35	27.74	6.2	6.1	6.6	61.1%	67.4%	70.9%
3 Special Hospitals	12.59	21.12	26.62	7.1	6.4	6.4	61.9%	60.0%	72.0%
39 Hospitals, in total	$19.34	$27.12	$35.35	8.4 days	8.1 days	8.2 days	74.0%	80.8%	79.7%
44 Hospitals, in total			$35.10			8.2 days			79.5%

* 12 out of 15 in 1953; 12 out of 16 in 1958 and 12 out of 17 in 1962.

EXHIBIT NO. 4

MARYLAND HOSPITAL SURVEY

USAGE OF HOSPITAL BED FACILITIES

(Data for 32 hospitals from which data for all three years were available; they represent 92% of all the patient days for all the 44 general hospitals in the State in 1962)

	32 Hospitals with Comparable Data			44 Hospitals
	1953	1958	1962	in 1962
1. Average Length of Stay - by type of hospital				
Large Teaching Hospitals	11.0 days	10.6 days	10.7 days	10.7 days
Large City Hospitals	9.2	9.0	9.0	9.0
Small City Hospitals	7.4	7.5	7.7	7.7
Large County Hospitals	7.4	7.1	7.0	7.0
Small County Hospitals	6.7	6.6	6.2	6.8
Special Hospitals	15.8	11.3	8.9	6.4
All Hospitals	8.7 days	8.4 days	8.4 days	8.2 days
2. Average Length of Stay - by type of accommodation				
Ward Patients	9.3 days	8.6 days	8.4 days	
Semiprivate Patients	8.0	8.1	8.1	
Private Patients	9.4	8.9	9.4	
All Patients	8.7 days	8.4 days	8.4 days	8.2 days
3. Average Length of Stay - by type of case				
Medical and Surgical Patients	10.2 days	10.2 days	10.1 days	
Obstetrical Patients	4.5	3.9	3.7	
Pediatric Patients	9.0	7.9	6.6	
All Patients	8.7 days	8.4 days	8.4 days	8.2 days

In general: The length of stay for obstetrical cases is approximately the same in each type of hospital; the length of stay for medical and surgical cases, and also for the pediatric cases, is generally longer in the larger hospitals and shorter in the smaller ones. For 1962, for example, the figures are -

	Large Teaching	Large City	Small City	Large County	Small County	Total
Medical-Surgical	12.2 days	10.9	9.9	8.5	7.9	10.1 days
Pediatrics	15.2 days	8.2	5.8	4.3	3.3	6.6 days

4. Use of Beds ("Occupancy Factor") - by type of hospital				
Large Teaching Hospitals	80.0%	82.2%	79.7%	79.7%
Large City Hospitals	76.3%	83.3%	80.7%	80.7%
Small City Hospitals	69.5%	85.2%	80.8%	80.8%
Large County Hospitals	75.7%	84.1%	83.1%	83.1%
Small County Hospitals	59.7%	66.4%	66.1%	71.3%
Special Hospitals	60.5%	58.2%	75.3%	72.0%
All Hospitals	74.6%	81.6%	79.9%	79.5%
5. Use of Beds ("Occupancy Factor") - by type of medical service				
Medical or Surgical Beds	77.5%	85.1%	84.3%	
Obstetrical Beds	64.3%	70.8%	62.2%	
Pediatric Beds	67.5%	69.0%	66.5%	
All Beds	74.6%	81.6%	79.9%	79.5%

EXHIBIT NO. 5

MARYLAND HOSPITAL SURVEY

MARYLAND CHARACTERISTICS VERSUS NATIONAL CHARACTERISTICS

1. Three Significant Relationships	Maryland	U.S.A.
Beds Available per 1,000 population - 1962	2.9	3.6
Admissions (inpatient) to Hospitals per 1,000 population-1962	101	131
Days of Hospital Care (inpatient) per 1,000 population - 1962	827	999

2. Size of Hospitals - 1962		
Beds in Hospitals of a size under 200 beds	27% of total beds	45% of total beds
from 200 to 399 beds	50% of total beds	31% of total beds
over 400 beds	23% of total beds	24% of total beds
Admissions into Hospitals with less than 200 beds	30% of total admissions	48% of total admissions

3. Comparative Figures	1953	1962	Increase
Population			
Maryland	2,556,000	3,233,000	26.5%
U. S. A	159,035,000	185,822,000	16.8%
Beds			
Maryland	7,161	9,224	28.8%
U. S. A.	546,000	677,000	24.0%
Admissions			
Maryland	229,669	326,059	42.0%
U. S. A.	18,098,000	24,307,000	34.3%
Use of Beds (Occupancy Factor)			
Maryland	74.0%	79.5%	(Improvement)
U. S. A	72.0%	75.1%.	(Improvement)
Average Length of Stay			
Maryland	8.4 days	8.2 days	(Decrease)
U. S. A.	7.9 days	7.6 days	(Decrease)
Full-Time Personnel per 100 Average Daily Patients			
Maryland	216	254	17.6%
U. S. A.	183	237	29.5%

Source of data, as to figures for U. S. A.: Journal of American Hospital Association, August 1963.

EXHIBIT NO. 6

MARYLAND HOSPITAL SURVEY

TRENDS SINCE 1953

	1953	1962	Increase in Percent
Population			
Maryland	2,556,000	3,233,000	26.5
U. S. A.	159,035,000	185,822,000	16.8
Beds			
Maryland	7,161	9,224	28.8
U. S. A.	546,000	677,000	24.0
Admissions			
Maryland	229,669	326,059	42.0
U. S. A.	18,098,000	24,307,000	34.3
Admissions per 1,000 Population			
Maryland	90	101	12.2
U. S. A.	114	131	14.9
Use of Beds (Occupancy Factor)			
Maryland	74.0%	79.5%	(Improvement)
U. S. A.	72.0%	75.1%	(Improvement)
Average Length of Stay			
Maryland	8.4 days	8.2 days	(Decrease)
U. S. A.	7.9 days	7.6 days	(Decrease)
Full Time Personnel per 100 Average Daily Patients			
Maryland	216	254	17.6
U. S. A.	183	237	29.5
Operating Costs (Inpatient) per Inpatient Day			
Maryland			
Salaries & Wages	$11.87	$22.66	
Other Costs	7.47	12.44	
Total	$19.34	$35.10	81.5
U. S. A.			
(Exactly comparable figures of inpatient costs per day are not available for U. S. A. as a whole. The following are the total hospital costs per inpatient day, which are slightly higher than the inpatient costs. This difference has no appreciable effect on the percentages of increase between 1953 and 1962.)			
Salaries & Wages	$11.86	$22.79	
Other Costs	8.09	14.04	
Total	$19.95	$36.83	84.6

Source of data, as to figures for U. S. A.: Bureau of Census, (population); Journal of American Hospital Association, August 1963 issue, (other figures)

EXHIBIT NO. 7

MARYLAND HOSPITAL SURVEY

USAGE OF HOSPITAL FACILITIES

	Number of Hospitals Reporting Comparable Data	1953	1958	1962	Increase of 1962 Volumes Over 1953	Increase of 1962 Volumes Over 1958
Population of Maryland		2,556,000	2,974,000	3,233,000	26.5%	8.7%
Hospital Beds Available	(39)	7,161	7,782	8,908	24.4	14.5
Admissions to Hospitals - Inpatients	(39)	229,669	281,982	315,088	37.2	11.7
Patient Days of Care - Inpatients	(39)	1,933,051	2,295,309	2,591,487	34.1	12.9
Outpatients Visits, Excluding Accident Room or Emergency Visits	(24)	691,174	792,202	991,188	43.4	25.1
Accident Room and Emergency Visits	(32)	293,136	389,479	470,638	60.6	20.8
Accident Room Visits Resulting in Inpatient Treatment	(15)	8,773	14,657	21,678	147.1	47.9
Surgery Cases Performed	(36)	102,240	122,486	143,367	40.2	17.0
All Operative Procedures	(32)	131,879	161,538	182,214	38.2	12.8
Electrocardiograms	(22)	43,081	65,071	97,934	127.3	50.5
X-Ray Examinations	(31)	271,590	430,290	593,775	118.6	38.0
X-Ray Films Taken	(13)	368,627	664,036	1,049,356	184.7	58.0
Laboratory Determinations	(29)	2,034,764	3,482,710	5,604,610	175.4	60.9
Physical Therapy Treatments	(9)	61,159	66,828	81,767	33.7	22.4
Certain Unusual Procedures -						
Cobalt Bomb Procedures		0	10,739(1)	25,369(3)	-	-
Artificial Kidney Procedures		0	7(3)	15(2)	-	-
Open Heart Surgery Procedures		0	163(3)	215(3)	-	-
Newborn Exchange Transfusions		44(5)	116(11)	323(18)	-	-

(Figures in parentheses under the Caption "Number of Hospitals Reporting Comparable Data" indicate the number of hospitals which supplied comparable figures for each of the three years; however, in "Certain Unusual Procedures," the parentheses indicate the number of hospitals in which these procedures were available.)

EXHIBIT NO. 8
(Page 1 of 2)

MARYLAND HOSPITAL SURVEY

IS THERE EXCESSIVE BED CAPACITY IN MARYLAND'S GENERAL HOSPITALS?

1. Maryland, in comparison with U. S. A. as a whole, for year 1962.

	Maryland	U. S. A. aa a whole
Beds in General Hospitals:	9,224 beds	676,795 beda
Population	3,233,000	185,822,000
Beds available per 1,000 of population	2.9 beds	3.6 beds
Occupancy Factor	79.5%	75.1%

(Hospital Data for Maryland are based on 44 Hospitals;
for U. S. A. they are based on Journal of American Hospital Association Statistics.)

2. Degree to which beds are uaed, expressed aa a percentage of total possible time they could be used ("occupancy factor").

	Occupancy Factor	The Occupancy is Equivalent to Using Beds to Full Capacity
Medical and Surgical Beds	84.3%	308 days a year, or 6 days a week
Obstetrical Beds	62.2%	227 daya a year, or 4-1/2 days a week
Pediatric Beds	66.5%	243 days a year, or 4-2/3 daya a week
All Beds Combined	79.9%	292 daya a year, or 5-2/3 daya a week

(Data are based on 32 Hospitals)

3. Actual occupancies at various timea during 1962, for 25 general hospitala, in Maryland. (Theae had 79.1% of the total bed capacity in the State aa a whole.)

	Medical and Surgical Beds			Obstetrical Beds	Pediatric Beda
	12 Hospitala Reporting Separately for		13 Hospitala Reporting only Combination	(24 out of the 25 Hoapitala had	(23 out of the 25 Hoapitala had
	Medical Beds	Surgical Beds	Medical or Surgical Beds	Such Beda)	Such Beda)
a. Occupancy factor at time of maximum load					
over 150% of capacity	1 Hospitals	0 Hospitals	0 Hospitals	1 Hospitala	5 Hospitala
120% to 149% of capacity	5	3	0	4	2
100% to 119% of capacity	4	5	7	10	6
95% to 99% of capacity	1	3	5	1	2
under 95% of capacity	1	1	1	8	8
Operated at 100% or more of capacity	10 (out of 12)	8 (out of 12)	7 (out of 13)	15 (out of 24)	13 (out of 23)

	Medicsl and Surgicsl Beds			Obstetrical Beds	Pedistric Beds
	12 Hospitsls Reporting Separstely for		13 Hospitsls Reporting	(24 out of the	(23 out of the
	Medicsl Beds	Surgicsl Beds	only Combinstion Medicsl or Surgicsl Beds	25 Hospitals had Such Beds)	25 Hospitals had Such Bcds)
b. Occupancy foctor ot time of minimum load					
over 75%	1 Hospitals	0 Hospitals	1 Hospitsls	0 Hospitals	1 Hospitals
50% to 75%	7	2	7	1	3
25% to 49%	4	9	4	14	7
under 25%	0	1	1	9	12
operated at 49% or less of capacity at minimum load	4 (out of 12)	10 (out of 12)	5 (out of 13)	23 (out of 24)	19 (out of 23)
c. Number of doys in the year 1962 when 80% or more of the beds were occupied					
300 or more days	3 Hospitsls	3 Hospitals	6 Hospitals	0 Hospitals	2 Hospitals.
200 or more days	7	7	10	1	4
122 or more days (1/3 of the yesr)	12 (out of 12)	9 (out of 12)	11 (out of 13)	6 (out of 24)	8 (out of 23)
d. Number of days in the year 1962 when 90% or more of the beds were occupied					
300 or more days	1 Hospitals	0 Hospitals	0 Hospitals	0 Hospitsls	2 Hospitals
200 or more days	3	2	3	0	3
122 or more days (1/3 of the year)	6 (out of 12)	6 (out of 12)	7 (out of 13)	1 (out of 24)	4 (out of 23)

EXHIBIT NO. 9
(Page 1 of 3)

MARYLAND HOSPITAL SURVEY

ADMISSIONS, BEDS, AND PATIENT DAYS - 1953

	Three Large Teaching	Eight Large City	Six Small City	Seven Large County	Six Small County (Out of 15*)	Two Special Hospitals	Total Excluding 9 Small County *
Beds							
Medical & Surgical	1,372	1,484	693	1,041	365	160	5,115
Obstetrical	169	306	164	204	92	-	935
Pediatrics	190	259	65	147	40	-	701
Total	1,731	2,049	922	1,392	497	160	6,751
Admissions							
(a) By Service							
Medical & Surgical	32,681	40,752	19,696	35,823	10,681	2,232	141,865
Obstetrical	10,187	16,202	9,032	10,097	3,739	-	49,257
Pediatrics	2,871	5,354	3,042	6,277	1,674	-	19,218
Total	45,739	62,308	31,770	52,197	16,094	2,232	210,340
(b) By Accommodation							
Ward	20,701	27,434	6,987	17,323	7,224	323	79,992
Semiprivate	15,683	21,316	19,149	26,629	6,137	1,782	90,696
Private	9,355	13,558	5,634	8,245	2,733	127	39,652
Total	45,739	62,308	31,770	52,197	16,094	2,232	210,340
Patient Days							
(a) By Service							
Medical & Surgical	400,365	440,871	185,490	298,664	85,327	35,348	1,446,065
Obstetrical	50,311	72,478	31,696	48,501	16,498	-	219,484
Pediatrica	54,629	57,548	16,617	37,381	6,527	-	172,702
Total	505,305	570,897	233,803	384,546	108,352	35,348	1,838,251
(b) By Accommodation							
Ward	256,306	255,121	56,559	108,766	47,980	16,463	741,195
Semiprivate	152,782	182,031	138,267	194,632	40,390	15,496	723,598
Private	96,217	133,745	38,977	81,148	19,982	3,389	373,458
Total	505,305	570,897	233,803	384,546	108,352	35,348	1,838,251
Ratios							
(a) Patient Days Per Admission							
(1) By Service							
Medical & Surgical	12.3	10.8	9.4	8.3	8.0	15.8	10.2
Obstetrical	4.9	4.5	3.5	4.8	4.4	-	4.5
Pediatrics	19.0	10.7	5.5	6.0	3.9	-	9.0
Total	11.0	9.2	7.4	7.4	6.7	15.8	8.7
(2) By Accommodation							
Ward	12.4	9.3	8.1	6.3	6.6	51.0	9.3
Semiprivate	9.7	8.5	7.2	7.3	6.6	8.7	8.0
Private	10.3	9.9	6.9	9.8	7.3	26.7	9.4
Total	11.0	9.2	7.4	7.4	6.7	15.8	8.7
(b) Occupancy Percent							
By Service							
Medical & Surgical	79.9	81.4	73.3	78.6	64.0	60.5	77.5
Obstetrical	81.6	64.9	53.0	65.1	49.1	-	64.3
Pediatrics	78.8	60.9	70.0	69.7	44.7	-	67.5
Total	80.0	76.3	69.5	75.7	59.7	60.5	74.6

* Data from 9 small county hospitals were not obtainable in sufficiently complete form to include in these totala. In the aggregate, the patient daya of these 9 hospitals were about 7% of the total for the State.

The aggregate beds, admissiona and patient days for the 12 small county hospitals for which Operating Coat data were obtained, and uaed in other parta of this report, were 839; 30,404 and 187,010, respectively. For one apecial hospital the aggregate beds, admissiona and patient daya were 68; 5019 and 16,142, respectively. For the thirty-nine hospitals reporting comparative costs, the aggregate beds, admissions and patient daya were 7,161; 229,669 and 1,933,051, respectively; the corresponding patient days per admission and occupancy percent were 8.4 daya and 74.0%, respectively.

MARYLAND HOSPITAL SURVEY

ADMISSIONS, BEDS, AND PATIENT DAYS - 1958

	Three Large Teaching	Eight Large City	Six Small City	Seven Large County	Six Small County (Out of 16*)	Two Special Hospitals	Total Excluding 10 Small County*
Beds							
Medical & Surgical	1,536	1,583	693	1,273	379	160	5,624
Obstetrical	157	302	166	221	100	-	946
Pediatrics	193	253	70	172	59	-	747
Total	1,886	2,138	929	1,666	538	160	7,317
Admissions							
(a) By Service							
Medical & Surgical	38,312	45,547	22,768	49,481	12,956	3,013	172,077
Obstetrical	11,779	20,545	11,912	14,479	4,555	-	63,270
Pediatrics	3,195	5,928	3,950	8,478	2,140	-	23,691
Total	53,286	72,020	38,630	72,438	19,651	3,013	259,038
(b) By Accommodation							
Ward	23,077	30,495	9,162	22,094	6,468	535	91,831
Semiprivate	22,244	28,785	22,841	39,091	10,425	2,291	125,677
Private	7,965	12,740	6,627	11,253	2,758	187	41,530
Total	53,286	72,020	38,630	72,438	19,651	3,013	259,038
Patient Days							
(a) By Service							
Medical & Surgical	469,730	508,912	227,308	408,112	99,278	33,963	1,747,303
Obstetrical	44,795	82,206	38,545	59,377	19,387	-	244,310
Pediatrics	51,030	58,665	23,210	43,619	11,665	-	188,189
Total	565,555	649,783	289,063	511,108	130,330	33,963	2,179,802
(b) By Accommodstion							
Ward	266,605	256,467	72,261	134,525	41,548	14,994	786,400
Semiprivate	217,137	264,557	171,055	286,348	69,077	15,822	1,023,996
Private	81,813	128,759	45,747	90,235	19,705	3,147	369,406
Total	565,555	649,783	289,063	511,108	130,330	33,963	2,179,802
Ratios							
(a) Patient Days Per Admission							
(1) By Service							
Medical & Surgical	12.3	11.2	10.0	8.2	7.7	11.3	10.2
Obstetrical	3.8	4.0	3.2	4.1	4.3	-	3.9
Pediatrics	16.0	9.9	5.9	5.1	5.5	-	7.9
Totsl	10.6	9.0	7.5	7.1	6.6	11.3	8.4
(2) By Accommodation							
Ward	11.6	8.4	7.9	6.1	6.4	28.0	8.6
Semiprivate	9.8	9.2	7.5	7.3	6.6	6.9	8.1
Private	10.3	10.1	6.9	8.0	7.1	16.8	8.9
Total	10.6	9.0	7.5	7.1	6.6	11.3	8.4
(b) Occupancy Percent							
By Service							
Medicsl & Surgical	83.8	88.1	89.9	87.8	71.8	58.2	85.1
Obstetrical	78.2	74.6	63.6	73.6	53.1	-	70.8
Pediatrics	72.4	63.5	90.8	69.5	54.2	-	69.0
Total	82.2	83.3	85.2	84.1	66.4	58.2	81.6

*Data from 10 small county hospitals were not obtainable in sufficiently complete form to include in these totals. In the aggregate, the patient days of these 10 hospitals were about 7% of the total for the State.

The aggregate beds, admissions and patient days for the 12 small county hospitals for which Operating Cost data were obtained, and used in other parts of this report, were 935; 37,836 and 230,050, respectively. For one special hospital the aggregate beds, admissions and patient days were 68; 4,759 and 15,787, respectively. For the thirty-nine hospitals reporting comparative costs, the aggregate beds, admissions and patient days were 7,782; 281,982 and 2,295,309, respectively; the corresponding patient days per admission and occupancy percent were 8.1 days and 80.8%, respectively.

EXHIBIT NO. 9
(Page 3 of 3)

MARYLAND HOSPITAL SURVEY

ADMISSIONS, BEDS, AND PATIENT DAYS - 1962

	Three Large Teaching	Eight Large City	Six Small City	Seven Large County	Six Small County (Out of 17*)	Two Special Hospitals	Total Excluding 11 Small County*
Beds							
Medical & Surgical	1,748	1,962	712	1,565	431	159	6,577
Obstetrical	175	323	166	247	100	-	1,011
Pediatrics	208	271	78	198	58	-	813
Total	2,131	2,556	956	2,010	589	159	8,401
Admissions							
(a) By Service							
Medical & Surgical	43,324	56,413	22,699	58,995	14,446	4,918	200,795
Obstetrical	11,421	18,741	10,192	17,220	4,982	-	62,556
Pediatrics	3,218	8,232	3,766	11,134	3,350	-	29,700
Total	57,963	83,386	36,657	87,349	22,778	4,918	293,051
(b) By Accommodation							
Ward	24,547	26,780	9,119	20,284	6,557	955	88,242
Semiprivate	25,528	44,227	22,359	54,495	13,003	3,586	163,198
Private	7,888	12,379	5,179	12,570	3,218	377	41,611
Total	57,963	83,386	36,657	87,349	22,778	4,918	293,051
Patient Days							
(a) By Service							
Medical & Surgical	526,786	615,821	224,849	498,688	114,540	43,722	2,024,406
Obstetrical	44,644	69,551	35,410	63,392	16,402	-	229,399
Pediatrics	48,814	67,661	21,833	47,882	11,165	-	197,355
Total	620,244	753,033	282,092	609,962	142,107	43,722	2,451,160
(b) By Accommodation							
Ward	266,652	222,250	69,010	123,190	40,611	18,314	740,027
Semiprivate	265,736	400,092	171,047	379,745	80,303	21,286	1,318,209
Private	87,856	130,691	42,035	107,027	21,193	4,122	392,924
Total	620,244	753,033	282,092	609,962	142,107	43,722	2,451,160
Ratios							
(a) Patient Days Per Admission							
(1) By Service							
Medical & Surgical	12.2	10.9	9.9	8.5	7.9	8.9	10.1
Obstetrical	3.9	3.7	3.5	3.7	3.3	-	3.7
Pediatrics	15.2	8.2	5.8	4.3	3.3	-	6.6
Total	10.7	9.0	7.7	7.0	6.2	8.9	8.4**
(2) By Accommodation							
Ward	10.9	8.3	7.6	6.1	6.2	19.2	8.4
Semiprivate	10.4	9.0	7.7	7.0	6.2	5.9	8.1
Private	11.1	10.6	8.1	8.5	6.6	10.9	9.4
Total	10.7	9.0	7.7	7.0	6.2	8.9	8.4**
(b) Occupancy Percent By Service							
Medical & Surgical	82.6	86.0	86.5	87.3	72.8	75.3	84.3
Obstetrical	69.9	59.0	58.4	70.3	44.9	-	62.2
Pediatrics	64.3	68.4	76.7	66.3	52.7	-	66.5
Total	79.7	80.7	80.8	83.1	66.1	75.3	79.9**

*Data from 11 small county hospitals were not obtainable in sufficiently complete form to include in these totals. In the aggregate, the patient days of these 11 hospitals were about 8% of the total for the State.

The aggregate beds, admissions and patient days for the 12 small county hospitals for which Operating Cost data were obtained, and used in other parts of this report, were 1,036; 40,779; and 268,588, respectively. For one special hospital the aggregate beds, admissions and patient days were 60; 4,036 and 13,846, respectively.

**For the thirty-nine hospitals reporting comparative costa, the aggregate beds, admissions and patient days were 8,908; 315,088 and 2,591,487, respectively; the corresponding patient days per admission and occupancy percent were 8.2 days and 79.7%, respectively.

For the 44 hospitals, the total number of hospitals in Msryland reporting data, the aggregate beds, admissions and patient days were 9,224; 326,059 snd 2,674,935, respectively; the corresponding patient daya per admiasion and occupancy percent were 8.2 days and 79.5%, respectively.

MARYLAND HOSPITAL SURVEY

EMPLOYEE AND SALARY DATA

Exhibit No. 10 – Full Time Employees per Bed and per 1,000 Patient Days for the years 1953, 1958 and 1962

Exhibit No. 11 – Salary Trends 1953–1962 in Maryland Hospitals and Comparison of Hospital and Other Salaries

Exhibit No. 12 – Trends in Hospital Wage Rates and Hours Worked

1. Proportion of Full-Time Employees in Each Bracket of Basic Weekly Wage
2. Trends in Average Monthly Basic Wage Rates for Selected Occupations
3. Average Annual Salary – by type of hospital
4. Average Work Week (approximate measurements), for two representative groups

Exhibit No. 13 – Employee data for Maryland Hospitals – Equivalent Full Time – by Categories

Exhibit No. 14 – Distribution of Full Time Employees According to Basic Weekly Wage by Type of Hospital

Exhibit No. 15 – Number of Employees Engaged in Selected Types of Hospital Work

Exhibit No. 16 – Trends in Average Monthly Basic Wage Rates for Selected Occupations

Exhibit No. 17 – Normal Work Weeks

Exhibit No. 18 – Causes of the Increase in Payrolls

MARYLAND HOSPITAL SURVEY

EQUIVALENT FULL TIME INPATIENT EMPLOYEES PER BED AND PER 1,000 INPATIENT DAYS

Hospitals	1953 Full Time Inpatient Employees		1958 Full Time Inpatient Employees		1962 Full Time Inpatient Employees	
	Per Bed	Per 1,000 Patient Days	Per Bed	Per 1,000 Patient Days	Per Bed	Per 1,000 Patient Days
3 Large Teaching	2.1	7.3	2.4	7.8	2.5	8.6
8 Large City	1.4	5.1	1.9	6.3	2.1	7.0
6 Small City	1.7	6.5	2.1	6.7	2.1	7.2
7 Large County	1.5	5.4	1.7	5.5	1.8	6.0
12 Small County	1.1	5.1	1.3	5.4	1.5	5.8
3 Special	1.0	6.2	1.3	5.9	1.5	5.9
Total	1.6	5.9	1.9	6.5	2.0	7.0

Note: Data for the same 39 hospitals, except for 1 small hospital in 1953.

EXHIBIT NO. 10
(Page 2 of 3)

MARYLAND HOSPITAL SURVEY

FULL TIME INPATIENT EMPLOYEES (INCLUDING EQUIVALENT FULL TIME TEMPORARY) PER BED AND PER 1,000 PATIENT DAYS

	1953 (38 Hospitals)				1958 (39 Hospitals)				1962 (39 & 42 Hospitals)			
	Full Time Employees				Full Time Employees				Full Time Employees			
Hospital	Number	Beds	Per Bed	Per 1,000 Patient Days	Number	Beds	Per Bed	Per 1,000 Patient Days	Number	Beds	Per Bed	Per 1,000 Patient Days
Teaching												
T–1	2,119.3	988	2.1	7.68	2,227.7	986	2.3	7.87	2,528.9	1,017	2.5	8.81
T–2	682.8	308	2.2	7.03	931.5	308	3.0	9.13	1,383.1	447	3.1	9.75
T–3	887.4	435	2.0	6.71	1,276.6	592	2.2	7.08	1,425.6	667	2.1	7.45
Total Teaching	3,689.5	1,731	2.1	7.30	4,435.8	1,886	2.4	7.84	5,337.6	2,131	2.5	8.61
Baltimore – Large												
BL–1	256.4	162	1.6	5.11	331.7	168	2.0	5.54	439.8	260	1.7	5.77
BL–2	303.1	279	1.1	4.67	530.3	335	1.6	5.67	630.4	358	1.8	6.05
BL–3	232.3	184	1.3	5.02	382.3	184	2.1	6.82	695.1	285	2.4	8.35
BL–4	428.1	320	1.3	4.56	632.9	324	2.0	6.27	754.2	360	2.1	7.27
BL–5	271.2	243	1.1	4.13	403.5	238	1.7	5.75	491.3	236	2.1	7.10
BL–6	352.3	219	1.6	5.50	490.1	222	2.2	6.91	658.5	384	1.7	6.03
BL–7	595.6	300	2.0	6.31	629.2	295	2.1	6.57	683.3	279	2.4	7.99
BL–8	471.2	342	1.4	5.15	679.9	372	1.8	6.64	888.7	394	2.3	7.31
Total Baltimore-Large	2,910.2	2,049	1.4	5.10	4,079.9	2,138	1.9	6.28	5,241.3	2,556	2.1	6.96
Baltimore – Small												
BS–1	294.8	177	1.7	7.70	351.2	171	2.1	6.39	381.3	171	2.2	7.41
BS–2	283.2	152	1.9	7.45	358.6	160	2.2	7.79	382.3	187	2.0	7.46
BS–3	369.8	191	1.9	6.57	478.7	191	2.5	7.74	473.4	191	2.5	8.07
BS–4	184.2	132	1.4	4.99	238.2	137	1.7	5.26	278.3	137	2.0	6.45
BS–5	120.0	86	1.4	5.92	218.3	86	2.5	7.55	188.1	86	2.2	7.42
BS–6	272.4	184	1.5	6.19	301.5	184	1.6	5.80	330.3	184	1.8	6.33
Total Baltimore-Small	1,524.4	922	1.7	6.52	1,946.5	929	2.1	6.74	2,033.7	956	2.1	7.21
County-Large												
CL–1	138.7	100	1.4	4.95	257.7	200	1.3	5.06	296.8	200	1.5	5.10
CL–2	293.8	231	1.3	4.48	359.8	254	1.4	4.55	439.6	252	1.7	5.42
CL–3	487.1	234	2.1	7.58	508.0	234	2.2	6.44	716.5	363	2.0	5.86
CL–4	238.2	200	1.2	4.01	458.9	245	1.9	5.57	641.1	340	1.9	6.93
CL–5	189.8	125	1.5	5.76	287.5	180	1.6	5.08	436.2	280	1.6	5.59
CL–6	419.5	240	1.7	6.14	516.7	260	2.0	6.70	589.8	282	2.1	6.67
CL–7	291.6	262	1.1	4.42	408.8	293	1.4	4.74	519.4	293	1.8	5.79
Total County-Large	2,058.7	1,392	1.5	5.35	2,797.4	1,666	1.7	5.47	3,639.4	2,010	1.8	5.97

MARYLAND HOSPITAL SURVEY

FULL TIME INPATIENT EMPLOYEES (INCLUDING EQUIVALENT FULL TIME TEMPORARY) PER BED AND PER 1,000 PATIENT DAYS

	1953				1958				1962			
	Full Time Employees				Full Time Employees				Full Time Employees			
Hospital	Number	Beds	Per Bed	Per 1,000 Patient Days	Number	Beds	Per Bed	Per 1,000 Patient Days	Number	Beds	Per Bed	Per 1,000 Patient Days
County-Small												
CS-1	39.3	29	1.4	5.07	35.4	35	1.0	3.70	56.0	67	0.8	4.24
CS-2	83.0	78	1.1	6.62	123.1	78	1.6	8.09	143.1	84	1.7	7.61
CS-3	204.3	160	1.3	6.29	255.0	162	1.6	6.45	296.2	165	1.8	6.84
CS-4	60.9	34	1.8	5.90	76.9	52	1.5	6.25	84.2	52	1.6	6.36
CS-5	127.0	95	1.3	5.83	174.0	95	1.8	5.93	236.9	129	1.8	5.78
CS-6	15.5	42	0.4	1.99	72.5	61	1.2	6.06	76.6	61	1.3	5.52
CS-7	66.0	51	1.3	4.50	70.7	51	1.4	5.10	72.1	43	1.7	5.05
CS-8	29.6	34	0.9	3.46	36.6	34	1.1	5.06	47.6	40	1.2	6.21
CS-9	167.4	139	1.2	5.22	190.9	156	1.2	4.44	240.2	156	1.5	5.61
CS-10	56.6	57	1.0	3.79	65.0	73	0.9	4.13	85.3	77	1.1	5.23
CS-11	46.9	45	1.0	4.50	76.9	63	1.2	5.61	91.2	63	1.4	5.49
CS-12	49.6	75	0.7	3.63	74.1	75	1.0	4.00	140.2	99	1.4	5.10
Total Incl. in 39 Group	946.1	839	1.1	5.06	1,251.1	935	1.3	5.43	1,569.6	1,036	1.5	5.84
CS-13	–	–	–	–	–	–	–	–	–	–	–	–
CS-14	–	–	–	–	–	–	–	–	24.0	14	1.7	5.44
CS-15	–	–	–	–	–	–	–	–	56.0	65	0.9	4.50
CS-16	–	–	–	–	–	–	–	–	–	–	–	–
CS-17	–	–	–	–	–	–	–	–	186.1	139	1.3	4.57
Total County-Small	946.1	839	1.1	5.06	1,251.1	935	1.3	5.43	1,835.7	1,254	1.5	5.63
Special												
S-1	85.5	68	1.3	5.30	92.5	68	1.4	5.86	98.0	60	1.6	7.08
S-2	27.7	40	0.7	12.56	44.2	40	1.1	9.91	71.6	35	2.0	9.24
S-3	NA	–	–	–	154.1	120	1.3	5.22	168.8	124	1.4	4.69
Total Special	113.2	108	1.0	6.17	290.8	228	1.3	5.85	338.4	219	1.5	5.88
Total 39 Hospitals (38 in 1953)	11,242.1	7,041	1.6	5.92	14,801.5	7,782	1.9	6.45	18,160.0	8,908	2.0	7.01
Grand Total (42 in 1962)	11,242.1	7,041	1.6	5.92	14,801.5	7,782	1.9	6.45	18,426.1	9,126	2.0	6.96

EXHIBIT NO. 11

MARYLAND HOSPITAL SURVEY

SALARY TRENDS 1953-1962 IN MARYLAND HOSPITALS

AND

COMPARISON OF HOSPITAL AND OTHER SALARIES

1. Maryland Hospital Salaries

(Average Salary Per Year, By Classifications, as Reported to Commission to Study Hospital Costs)

	36 Hospitals	41 Hospitals	
	1953	1962	% Increase
Administration Group	$2,516	$3,823	52%
Dietary Group	1,628	2,479	52%
Household Group	1,659	2,684	62%
General Professional Care Group	1,826	3,509	92%
Nursing Group	2,085	3,060	47%
Special Services Group	2,428	4,191	73%
Total Group	2,019	3,272	62%

2. Salary Levels in Maryland Hospitals, Compared With Other Salary Levels

a. Other Salary Levels*

	1953	1962	% Increase
Manufacturing Employees	$3,854	$5,636	46%
Wholesale and Retail Trade	2,821	3,803	35
Services and Other	2,535	3,754	48
Federal Government Employees	4,562 (1956)	6,094	34%(since 1956)

b. Average Salaries in Maryland Hospitals

Total Group (see above)	2,019	3,272	62%

* ("Average Annual Wage" Reported by Maryland Department of Employment Security for Insured Employment.)

MARYLAND HOSPITAL SURVEY

TRENDS IN HOSPITAL WAGE RATES AND HOURS WORKED

1. Proportion of Full Time Employees in Each Bracket of Basic Weekly Wage

Weekly Wage	1953	1958	1962
	Proportion of Total Employees in Each Group		
Under $25 per week	16.8%	9.1%	.2%
$ 25.00 - $ 49.99	50.2	45.6	37.4
50.00 - 74.99	27.5	31.7	32.3
75.00 - 99.99	3.6	9.9	20.7
100.00 - 124.99	1.0	1.7	5.5
Over $125	.9	2.0	3.9
	100.0%	100.0%	100.0%

2. Trends in Average Monthly Basic Wage Rates for Selected Occupations

(Exhibit 16 shows basic wage rates generally paid by each of five types of hospitals for each of the occupations shown here, in 1953, 1958 and 1962. The figures in Exhibit 16 are indicative rather than precise. The figures shown in this exhibit are based upon those of Exhibit 16.)

	1953	1962	% increase
Nursing Positions			
Registered Nurse Assigned to a Ward	$202 to $240	$311 to $373	54% and 55%, respectively
Nurses Aides Giving Bedside Care	105 to 130	168 to 229	60% and 76%, "
Practical or Licensed Practical Nurse	146 to 178	233 to 293	60% and 65%, "
Office Positions			
Admitting Clerk	153 to 200	236 to 307	54% and 54%, respectively
Accounting Clerk	159 to 207	262 to 304	65% and 47%, "
Stenographer	164 to 203	257 to 314	57% and 55%, "
Laboratories			
Laboratory Technician - Starting Level	194 to 227	347 to 387	79% and 70%, respectively
Supervisory Laboratory Technician	263 to 321	459 to 604	75% and 88%, "
Other			
Food Manager	219 to 330	394 to 606	80% and 84%, respectively
Lowest Class of Employee - per hour	$ .49 to $ .69	$ .95 to $1.25	94% and 81%, "

EXHIBIT NO. 12
(Page 2 of 2)

MARYLAND HOSPITAL SURVEY

TRENDS IN HOSPITAL WAGE RATES AND HOURS WORKED

	36 Hospitals 1953	38 Hospitals 1958	41 Hospitals 1962	Increase Over 1953
3. Average Annual Salary - by type of hospital				
Teaching Hospitals	$2,063	$2,839	$3,337	62%
Large City Hospitals	2,168	2,649	3,271	51%
Small City Hospitals	1,907	2,520	3,331	75%
Large County Hospitals	1,817	2,702	3,268	80%
Small County Hospitals	1,956	2,483	3,059	56%
Special Hospitals	2,203	2,498	3,079	40%
Total	2,019	2,683	3,272	62%

4. Average Work Week - (approximate measurements), for two representative groups

	1953	1958	1962
Registered Nurse			
Baltimore Hospitals	41-42 hours	40 hours	40 hours
County Hospitals	43-45 hours	41-42 hours	39-40 hours
Lowest Paid Groups			
Baltimore Hospitals	43-46 hours	41-43 hours	39-40 hours
County Hospitals	43-46 hours	43-44 hours	40 hours

EXHIBIT NO. 13

MARYLAND HOSPITAL SURVEY

EMPLOYEE DATA FOR MARYLAND HOSPITALS

(EQUIVALENT FULL TIME EMPLOYEES)

	3-Large Teaching	8-Large City	6-Small City	7-Large County	12-Small County	1-Special	Total
1. Administration							
1953	352	203	161	161	78	4	959
1958	438	289	205	217	104	6	1,259
1962	513	466	197	305	147	10	1,638
2. Dietary							
1953	471	348	177	232	119	3	1,350
1958	483	482	210	299	143	4	1,621
1962	588	532	232	342	185	6	1,885
3. Household							
1953	707	655	294	316	126	11	2,109
1958	758	793	331	386	173	13	2,454
1962	819	801	327	495	208	14	2,664
4. General Professional Care							
1953	549	392	111	159	31	4	1,246
1958	730	461	209	255	52	6	1,713
1962	831	591	199	362	69	15	2,067
5. Nursing							
1953	1,427	1,110	689	668	436	10	4,340
1958	1,700	1,582	792	943	559	15	5,591
1962	2,054	2,076	848	1,102	693	22	6,795
6. Special Services							
1953	811	324	170	309	107	4	1,725
1958	1,031	467	274	458	157	9	2,396
1962	1,324	804	321	717	223	19	3,408
7. Total Employees							
1953	4,317	3,032	1,602	1,845	897	36	11,729
1958	5,140	4,074	2,021	2,558	1,188	53	15,034
1962	6,129	5,270	2,124	3,323	1,525	86	18,457

EXHIBIT NO. 14
(Page 1 of 2)

MARYLAND HOSPITAL SURVEY

DISTRIBUTION OF EMPLOYEES ACCORDING TO BASIC WEEKLY WAGE
(FULL TIME EMPLOYEES)

	Type of Hospital							
1953	Large Teaching (3 Hospitals)	Large City (7 Hospitals)	Small City (4 Hospitals)	Large County (5 Hospitals)	Small County (8 Hospitals)	Special (1 Hospital)	Total Number	Total %
Under $25	604	438	326	147	154	4	1,673	16.8
25 - 49.99	1,812	1,458	479	820	391	24	4,984	50.2
50 - 74.99	1,337	674	238	298	182	6	2,735	27.5
75 - 99.99	102	167	41	24	17	1	352	3.6
100 - 124.99	54	18	6	11	10	1	100	1.0
Over $125	32	28	12	15	4	0	91	.9
Total	3,941	2,783	1,102	1,315	758	36	9,935	100.0%

1958	(3 Hospitals)	(7 Hospitals)	(6 Hospitals)	(5 Hospitals)	(12 Hospitals)	(3 Hospitals)	Total	
Under $25	510	383	292	83	83	65	1,416	9.8
25 - 49.99	1,876	1,875	1,025	1,107	573	126	6,582	45.7
50 - 74.99	1,945	1,083	468	532	385	75	4,488	31.1
75 - 99.99	508	476	181	140	84	13	1,402	9.7
100 - 124.99	87	68	48	23	27	2	255	1.8
Over $125	126	66	26	35	23	3	279	1.9
Total	5,052	3,951	2,040	1,920	1,175	284	14,422	100.0%

1962	(3 Hospitals)	(8 Hospitals)	(6 Hospitals)	(6 Hospitals)	(15 Hospitals)	(3 Hospitals)	Total	
Under $25	3	0	0	25	0	15	43	.2
25 - 49.99	2,238	1,726	960	1,273	761	153	7,111	37.7
50 - 74.99	1,905	1,754	564	967	663	121	5,974	31.7
75 - 99.99	1,332	1,134	437	732	341	51	4,027	21.4
100 - 124.99	367	365	73	118	71	11	1,005	5.3
Over $125	246	209	76	79	68	15	693	3.7
Total	6,091	5,188	2,110	3,194	1,904	366	18,853	100.0%

MARYLAND HOSPITAL SURVEY

DISTRIBUTION OF FULL TIME EMPLOYEES ACCORDING TO BASIC WEEKLY WAGE FOR 28 HOSPITALS WHICH REPORTED COMPARABLE DATA FOR 1953, 1958 AND 1962

(In 1962 these 28 Hospitals had 79% of total bed capacity of the total)

	Teaching	Large City	Small City	Large County	Small County	Special	Total	
1953	(3 Hospitals)	(7 Hospitals)	(4 Hospitals)	(5 Hospitals)	(8 Hospitals)	(1 Hospital)	Number	%
Under $25	604	438	326	147	154	4	1,673	16.8
25 - 49.99	1,812	1,458	479	820	391	24	4,984	50.2
50 - 74.99	1,337	674	238	298	182	6	2,735	27.5
75 - 99.99	102	167	41	24	17	1	352	3.6
100 - 124.99	54	18	6	11	10	1	100	1.0
Over $125	32	28	12	15	4	0	91	.9
Total	3,941	2,783	1,102	1,315	758	36	9,935	100.0%
1958								
Under $25	510	269	220	83	83	6	1,171	9.1
25 - 49.99	1,876	1,725	650	1,107	452	26	5,836	45.6
50 - 74.99	1,945	992	288	532	280	17	4,054	31.7
75 - 99.99	508	455	89	140	71	2	1,265	9.9
100 - 124.99	87	65	25	23	22	1	223	1.7
Over $125	126	60	17	35	17	1	256	2.0
Total	5,052	3,566	1,289	1,920	925	53	12,805	100.0%
1962								
Under $25	3	0	0	25	0	0	28	.2
25 - 49.99	2,238	1,376	644	1,159	507	27	5,951	37.4
50 - 74.99	1,905	1,637	324	822	415	37	5,140	32.3
75 - 99.99	1,332	1,047	197	501	210	10	3,297	20.7
100 - 124.99	367	327	31	102	54	2	883	5.5
Over $125	246	189	49	76	50	7	617	3.9
Total	6,091	4,576	1,245	2,685	1,236	83	15,916	100.0%

EXHIBIT NO. 15
(Page 1 of 2)

MARYLAND HOSPITAL SURVEY

NUMBER OF EMPLOYEES ENGAGED IN SELECTED TYPES OF HOSPITAL WORK

	Type of Hospital						
	Large Teaching	Large City	Small City	Large County	Small County	Special	Total
1. Nursea							
Number of Hospitals reporting such Personnel	3	7	4	5	9	2	30
R.N. Full Time	466	281	123	190	188	18	1,266
Part Time	141	106	27	151	50	4	479
LPN Full Time	23	93	53	17	23	20	229
Part Time	-	31	1	4	5	-	41
Nuraea Aide Full Time	527	152	174	212	114	12	1,191
Part Time	-	34	-	100	16	4	154
Total Full Time	1,016	526	350	419	325	50	2,686
Part Time	141	171	28	255	71	8	674
1958							
1. Nursea							
Number of Hospitals reporting auch Personnel	3	7	5	6	12	3	36
R.N. Full Time	554	377	158	345	250	29	1,713
Part Time	206	261	75	211	109	9	871
LPN Full Time	127	122	113	120	52	47	581
Part Time	-	29	6	22	8	6	71
Nurses Aide Full Time	695	340	294	508	222	31	2,090
Part Time	2	88	-	43	33	7	173
Total Full Time	1,376	839	565	973	524	107	4,384
Part Time	208	378	81	276	150	22	1,115
1962							
1. Nurses							
Number of Hospitala reporting auch Personnel	3	8	6	7	16	3	43
R.N. Full Time	613	634	230	515	353	36	2,381
Part Time	220	390	128	365	188	11	1,302
LPN Full Time	310	189	159	185	104	42	989
Part Time	10	56	16	26	18	7	133
Nurses Aide Full Time	639	722	330	685	359	46	2,781
Part Time	3	64	18	115	60	14	274
Total Full Time	1,562	1,545	719	1,385	816	124	6,151
Part Time	233	510	162	506	266	32	1,709
1953							
2. Interns and Reaidents							
Number of Hospitals reporting auch Peraonnel	3	7	6	4	2	2	24
Interns Full Time	168	65	28	15	-	1	277
Part Time	-	-	2	-	-	-	2
Reaidents Full Time	146	95	71	19	3	2	336
Part Time	-	1	2	-	-	-	3
Total Full Time	314	160	99	34	3	3	613
Part Time	-	1	4	-	-	-	5
3. Laboratory Technicians							
Number of Hospitsla reporting auch Peraonnel	3	6	5	5	11	2	32
Laboratory Tech. Full Time	130	55	30	31	21	2	269
Psrt Time	16	11	4	3	10	-	44
1958							
2. Interns and Reaidents							
Number of Hospitals reporting such Personnel	3	8	6	5	3	3	28
Interns Full Time	157	97	33	23	-	-	310
Part Time	-	-	2	-	-	-	2
Residents Full Time	237	168	98	35	4	12	554
Psrt Time	1	5	1	4	-	-	11
Total Full Time	394	265	131	58	4	12	864
Part Time	1	5	3	4	-	-	13
3. Laborstory Technicisns							
Number of Hospitals reporting such Personnel	3	7	6	6	12	3	37
Laboratory Tech. Full Time	165	98	57	51	34	3	408
Part Time	44	19	13	19	10	-	105
1962							
2. Interna and Reaidents							
Number of Hospitals reporting auch Peraonnel	3	8	6	6	5	3	31
Interns Full Time	155	101	27	30	-	-	313
Part Time	-	1	-	-	-	-	1
Residenta Full Time	299	186	81	37	8	16	627
Part Time	1	3	7	5	2	-	18
Total Full Time	454	287	108	67	8	16	940
Part Time	1	4	7	5	2	-	19
3. Laboratory Technicians							
Number of Hospitals reporting auch Personnel	3	8	6	7	15	3	42
Laboratory Tech. Full Time	196	159	69	122	65	5	616
Part Time	85	44	20	33	20	2	204

MARYLAND HOSPITAL SURVEY

NUMBER OF EMPLOYEES ENGAGED IN SELECTED TYPES OF HOSPITAL WORK

	Type of Hospital						
1953	Large Teaching	Large City	Small City	Large County	Small County	Special	Total
4. Public Relations, Personnel, Hostess, Director of Volunteers							
Number of Hospitals reporting such Personnel	3	2	2	-	4	-	11
Full-time Employees	30	6	8	-	3	-	47
Part-time Employees	1	-	1	-	2	-	4
5. Accounting, Insurance Claims							
Number of Hospitals reporting such Personnel	3	6	6	6	11	2	34
Full-time Employees	149	41	48	67	24	3	332
Part-time Employees	12	8	3	12	10	1	46
1958							
4. Public Relations, Personnel, Hostess, Director of Volunteers							
Number of Hospitals reporting such Personnel	3	3	3	4	6	1	20
Full-time Employees	34	6	9	4	6	3	62
Part-time Employees	2	1	2	3	2	-	10
5. Accounting, Insurance Claims							
Number of Hospitals reporting such Personnel	3	7	6	6	12	3	37
Full-time Employees	151	76	54	89	45	8	423
Part-time Employees	27	8	10	24	9	1	79
1962							
4. Public Relations, Personnel, Hostess, Director of Volunteers							
Number of Hospitals reporting such Personnel	3	8	5	5	9	3	33
Full-time Employees	46	30	17	12	14	6	125
Part-time Employees	4	8	1	4	1	1	19
5. Accounting, Insurance Claims							
Number of Hospitals reporting such Personnel	3	8	6	7	16	3	43
Full-time Employees	219	159	71	137	87	11	684
Part-time Employees	29	27	8	25	13	1	103

EXHIBIT NO. 16

MARYLAND HOSPITAL SURVEY
TRENDS IN AVERAGE MONTHLY BASIC WAGE RATES FOR SELECTED OCCUPATIONS

Due to the nature of the data, these figures are indicative rather than precise.

	Type of Hospital				
	Large Teaching	Large City	Small City	Large County	Small County
Registered Nurse assigned to a ward					
1953	$240	$232	$240	$202	$218
1958	298	287	286	268	255
1962	373	365	348	325	311
Nurses Aide giving bedside care					
1953	$130	$129	$105	$112	$125
1958	160	160	127	148	144
1962	229	210	168	190	184
Practical or Licensed Practical Nurse					
1953	$175	$177	$178	$146	$158
1958	234	226	210	181	187
1962	293	279	255	239	233
Admitting Clerk					
1953	$179	$200	$161	$160	$153
1958	259	261	200	215	200
1962	268	307	236	257	250
Accounting Clerk					
1953	$190	$207	$180	$159	$188
1958	240	258	217	235	253
1962	300	304	262	276	291
Stenographer					
1953	$185	$203	$196	$171	$164
1958	243	260	245	204	223
1962	292	314	297	257	261
Laboratory Technician - Starting Level					
1953	$204	$219	$194	$215	$227
1958	257	289	284	288	273
1962	387	376	348	356	347
Supervisory Laboratory Technician					
1953	$306	$318	$263	$321	$305
1958	432	381	368	380	379
1962	604	561	496	517	459
Intern (Physician)		Inadequate Data			
Resident (Physician)		Inadequate Data			
Food Manager					
1953	$329	$330	$261	$317	$219
1958	407	408	342	414	320
1962	480	606	474	553	394
Lowest Class of Employee (per hour)					
1953	$ .60	$ .69	$.49	$.59	$.51
1958	.76	.78	.65	.71	.66
1962	1.25	1.08	.96	.95	.95

EXHIBIT NO. 17

MARYLAND HOSPITAL SURVEY

NORMAL WORK WEEKS

(Average or most typical hours per week in effect in each of the categories shown here)

	Large Teaching	Large City	Small City	Large County	Small County	Special
Registered Nurse						
1953	41.3	42.0	40.9	43.1	45.1	41.3
1958	40.0	40.0	39.8	41.4	42.2	40.0
1962	40.0	40.0	39.2	39.6	40.3	40.0
Lowest Paid Group						
1953	46.7	43.4	46.0	43.5	46.2	44.0
1958	41.3	42.0	43.3	43.5	44.0	42.7
1962	39.1	40.5	39.2	40.3	40.6	42.7

EXHIBIT NO. 18

MARYLAND HOSPITAL SURVEY
CAUSES OF THE INCREASE IN PAYROLLS
(Based on Data for the Same 39 Hospitals)

1. Base data

(1) 1953: 11,242 Inpatient Employees; $22,945,000 Inpatient Payroll;
5.92 Inpatient Employees per 1,000 Inpatient Days; $2,041 Average Annual Pay

1962: 18,160 Inpatient Employees; $59,272,000 Inpatient Payroll;
7.01 Inpatient Employees per 1,000 Inpatient Days; $3,264 Average Annual Pay

(2) In 1962 there were 2,591,000 inpatient days. $3,264 is 60% over $2,041.
The work week was 40 hours in 1962; it was no less than 42 hours in 1953.

(3) In 1953 Total Salaries were $25,362,000; of which $22,945,000 were for inpatient care.
1962 Total Salaries were $66,658,000; of which $59,272,000 were for inpatient care.
Increase in inpatient care Salaries was $36,327,000.

On Exhibit 11 the average annual wages are shown as $2,019 and $3,272 for the years 1953 and 1962, respectively, as contrasted with $2,041 and $3,264 shown herein for these years. The small differences are due to the number of hospitals used in each of the two studies.

2. Analyses

	Approximate Cost at 1953 Wage Rate	Approximate Effect of Higher Wage Rates	Total Effect in 1962
(a) Transition to the 40-hour work week (minimum measure) 18,160 ÷ 105% = 17,295; Excess = 865, 865 x $2,041 = $1,765,000; 60% thereof = $1,059,000	$ 1,765,000	$ 1,059,000	$ 2,824,000
(b) Effect of more inpatient days of care performed (at 1953 levels of personnel per inpatient day) 2,591,000 x 5.92 = 15,339 inpatient employees indicated for 1962 15,339 minus 11, 242 = 4,097 extra inpatient employees needed 4,097 inpatient employees minus 40 hour work week effect of 865 = 3,232 3,232 x $2,041 = $6,597,000; 60% thereof = $3,958,000	6,597,000	3,958,000	10,555,000
(c) Effect of more inpatient employees per inpatient day 18,160 inpatient employees minus 15,339 indicated inpatient employees is 2,821 2,821 x $2,041 = $5,758,000; 60% thereof = $3,455,000	5,758,000	3,455,000	9,213,000
(d) Effect of higher pay rates to the 1953 levels of inpatient employees $22,945,000 x 60% = $13,767,000	–	13,767,000	13,767,000
Totals	$14,120,000	$22,239,000	$36,359,000

Actual Increase was (difference due to rounding) $36,327,000

(Note: Effect of higher wage rates, plus effect of 40-hour work week =$24,004,000 (or more), or about 66% of total increase, and equal to $9.26 per 1,000 inpatient days.)

MARYLAND HOSPITAL SURVEY

OPERATIONAL DATA

MARYLAND HOSPITAL SURVEY

OCCUPANCY OF BEDS ASSIGNED TO EACH MAJOR TYPE OF CASE

1962

Caaes io Comparisoo Witb Beds Normally Avsilable for Such Casea

	Medical & Surgical															Obstetrica					Pediatrics				
	% capacity at time of:						Daya in year cases repreaent occupancy									% capacity at time of:		Days in year casea represent occupancy			% capacity at time of:		Daya in year cases represent occupancy		
	Max. Caaes			Mio. Cases			Over 80%			Over 90%			Over 95%			Max. Cases	Min. Csses	Over 80%	Over 90%	Over 95%	Max. Caaes	Min. Cases	Over 80%	Over 90%	Over 95%
	Med.	Comb.	Sur.	Med.	Comb.	Sur.	Med.	Comb.	Sur.	Med.	Comb.	Sur.	Med.	Comb.	Sur.										
Three Large Teaching Hospitals which reported such data (compriaing ao aggregate of 1,644 Medical-Surgical, 175 Obstetric and 208 Pediatric beds, respectively, in 1962)																									
a. (PARTIAL)	93		89	70		40	213		90	27		0	0		0	Not Separately Determinable					86	61	106	0	0
b.		99			77			360			253			110		103	56	184	29	8	91	31	89	15	0
c.	97		103	54		43	159		343	12		128	2		25	86	29	6	0	0	84	43	12	0	0
Eight Large City Hospitals which reported auch data (comprising an aggregate of 1,962 Medical-Surgical, 323 Obstetrical snd 271 Pediatric beds, respectively, in 1962)																									
a.	106		97	72		48	303		87	172		18	98		11	80	30	1	0	0	145	78	359	334	313
b.		99			43			280			157			64		117	31	131	51	35	92	6	29	5	0
c.		102			47			308			135			35		63	11	0	0	0	–	–	–	–	–
d.		100			50			231			93			16		123	37	172	101	96	95	14	16	3	1
e.		97			61			352			163			12		104	27	73	14	9	85	32	18	0	0
f.		96			71			338			184			62		82	47	30	0	0	91	71	182	31	0
g.	162		98	82		35	365		122	356		31	349		8	100	26	31	8	3	258	58	27	20	5
h.		101			69			360			230			75		116	29	125	54	35	89	22	20	0	0
Five Small City Hospitals which reported such data (comprisiog an aggregate of 656 Medical-Surgical, 146 Obstetrical and 68 Pediatric beds, respectively, in 1962)																									
a.	139		100	53		31	246		96	196		26	172		7	124	24	106	44	39	–	–	–	–	–
b.	104		113	25		11	129		215	41		143	23		71	102	42	77	33	22	188	25	275	216	140
c.	100		100	53		31	181		258	105		94	37		24	79	20	0	0	0	100	29	41	5	1
d.	134		124	26		55	284		249	190		157	127		99	183	17	210	171	146	100	8	29	11	1
e.		98			50			262			116			30		67	17	0	0	0	100	41	238	156	108
Four Large County Hospitals which reported such data (comprising an aggregate of 853 Medical-Surgical, 147 Obstetrical and 136 Pediatric beds, respectively, in 1962)																									
a.	140		97	64		45	162		161	95		95	47		48	136	41	31	10	5	94	16	7	1	0
b.	145		127	59		53	338		316	288		220	227		152	109	41	115	22	10	112	43	178	87	59
c.		102			40			106			12			1		132	39	189	121	70	107	14	30	2	1
d.		107			50			351			290			174		98	28	45	3	2	97	6	35	7	4
Five Small Couoty Hospitals which reported such data (comprisiog ao aggregate of 528 Medical-Surgical, 96 Obstetrical snd 79 Pediatric beds, respectively, in 1962)																									
a.	129		132	36		27	152		208	87		142	61		108	87	7	15	0	0	160	0	165	105	33
b.		109			43			204			98			50		108	0	52	32	4	400	0	343	301	301
c.		102			55			166			49			17		110	29	41	15	9	108	21	147	26	10
d.	107		104	37		43	294		303	202		221	114		170	80	13	5	0	0	120	8	91	39	27
e.		90			24			32			2			0		100	0	35	5	5	225	0	114	70	70

EXHIBIT NO. 19

EXHIBIT NO. 20

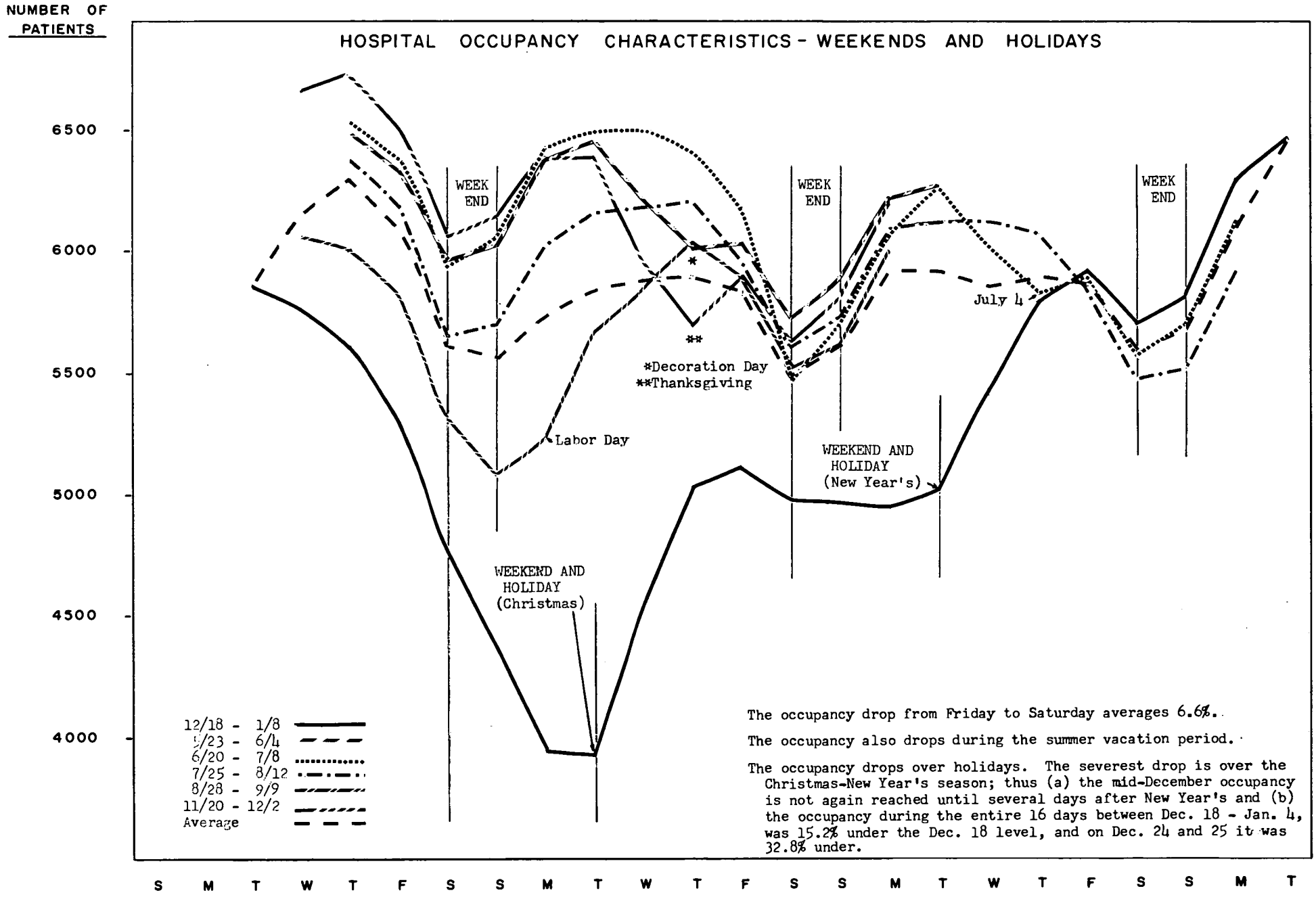

EXHIBIT NO. 21

MARYLAND HOSPITAL SURVEY

SELECTED MEASURES OF WORK LOADS, OTHER THAN INPATIENT ADMISSIONS

	Type of Hospital						Total	
	Large Teaching	Lsrge City	Small City	Lsrge County	Small County	Special	Number	%Over 1953
1. X-Ray Examinations								
Hospitals represented in following figurea	3	6	6	7	9		31	
1953	109,092	47,302	31,542	66,839	16,815		271,590	
1958	142,492	82,680	57,224	114,465	33,429		430,290	58.4
1962	190,071	134,661	64,866	159,885	44,292		593,775	118.6
2. X-Ray Films Taken								
Hoapitala repreaented in following figures	2	2	4	4	1		13	
1953	164,519	47,887	62,801	89,101	4,319		368,627	
1958	292,349	71,452	112,421	179,545	8,269		664,036	80.1
1962	479,775	167,330	137,375	251,698	13,178		1,049,356	184.7
3. Operative Procedures, Including Cystoscopy snd Delivery Room								
Hospitals repreaented in following figures	3	5	6	7	11		32	
1953	32,057	31,977	20,697	29,052	18,096		131,879	
1958	36,274	37,241	24,910	41,064	22,049		161,538	22.5
1962	42,488	39,223	24,800	51,981	23,722		182,214	38.2
4. Laboratory Determinations								
Hospitals represented in following figures	2	5	6	7	9		29	
1953	387,771	655,739	375,153	431,383	184,718		2,034,764	
1958	804,499	954,261	598,895	835,269	289,786		3,482,710	71.2
1962	1,263,195	1,703,686	659,045	1,464,693	513,991		5,604,610	175.4
5. Outpatient Visits, Excluding Accident Room and Psychiatric Clinics						Data are too incomplete for worthwhile comparison		
Hospitsls represented in following figures	3	8	4	5	4		24	
1953	430,590	149,136	46,979	57,982	6,487		691,174	
1958	459,987	196,203	49,774	71,788	14,450		792,202	14.6
1962	510,418	309,512	53,151	90,355	27,752		991,188	43.4
6. Outpstient Visits to Psychistric Clinics								
Hoapitals represented in following figures	2	–	–	–	–		2	
1953	6,367	–	–	–	–		6,367	
1958	7,462	–	–	–	–		7,462	17.2
1962	7,698	–	–	–	–		7,698	20.9
7. Accident Room or Emergency Service Visits								
Hoapitals represented in following figures	3	7	6	7	9		32	
1953	87,515	82,084	56,774	56,462	10,301		293,136	
1958	111,970	111,022	68,591	79,809	18,087		389,479	32.9
1962	136,141	137,112	71,162	99,838	26,385		470,638	60.6
8. Accident Room or Emergency Service Viaits which Resulted in Inpatient Admission								
Hospitals represented in following figures	1	5	1	5	3		15	
1953	1,687	3,791	752	2,488	55		8,773	
1958	1,894	6,141	1,033	5,429	160		14,657	67.1
1962	3,032	8,341	1,375	8,765	165		21,678	147.1
9. Electrocardiograms Included in Hospital Costs								
Hospitala represented in following figures	3	5	4	6	4		22	
1953	21,707	10,488	4,261	5,533	1,092		43,081	
1958	26,338	14,969	8,220	13,732	1,812		65,071	51.0
1962	37,824	26,678	9,409	20,607	3,416		97,934	127.3
10. Physical Therapy Treatments Included in Hospital Costs								
Hospitals represented in following figures	1	2	1	3	2		9	
1953	9,614	6,490	269	42,535	2,251		61,159	
1958	11,397	5,430	1,617	44,638	3,746		66,828	9.3
1962	13,506	8,771	2,009	51,579	5,902		81,767	33.7

EXHIBIT NO. 22

MARYLAND HOSPITAL SURVEY

NUMBER OF SURGERY CASES

	1953	1958	1962
3 – Large Teaching Hospitals	20,742	21,762	27,044
8 – Large City Hospitals	32,108	34,484	41,938
6 – Small City Hospitals	15,607	20,486	18,155
7 – Large County Hospitals	17,578	28,704	34,564
9 – Small County Hospitals	8,725	9,148	11,598
3 – Special Hospitals	7,480	7,902	10,068
Total of above 36 Hospitals	102,240	122,486	143,367
Increase over 1953		20%	40%
Population Increase over 1953		16%	27%

EXHIBIT NO. 23

MARYLAND HOSPITAL SURVEY

ILLUSTRATIONS OF ADVANCES IN TECHNOLOGY AND EQUIPMENT

	1953	1958	1962
Cobalt Bomb			
Hospitals with Equipment	0	1	3
Number of Procedures	0	10,739	25,369
Artificial Kidney			
Hospitals with Equipment	0	3	2
Number of Procedures	0	7	15
Open Heart Surgery			
Hospitals Performing Procedures	0	3	3
Number of Procedures	0	163	215
New Born Exchange Transfusions			
Hospitals Performing Procedures	5	11	18
Number of Procedures	44	116	323
Cardio-Pulmonary Laboratory in 1962			
Hospitals with Equipment			9
High Voltage X-Ray Therapy Equipment in 1962			
Hospitals with Equipment			15
Radio Isotope Equipment in 1962			
Hospitals with Equipment			17
Premature Nursery in 1962			
Hospitals with Facility			26

MARYLAND HOSPITAL SURVEY

HOSPITAL RATES

Exhibit No. 24 – Rates for Private Pay Patients for Selected Services in 1953, 1958 and 1962

Exhibit No. 25 – Division of Total Costs into "Hotel Like" and "Patient Care" Costs 1953, 1958 and 1962

Comparison with a similar study made in 1960 by a New Jersey Commission

Summary of Touche, Ross, Bailey & Smart Detailed Cost Analysis

EXHIBIT NO. 24

MARYLAND HOSPITAL SURVEY

"What Were the Most Common Rates for Private Pay Patients for the Following Selected Services in the Years 1953, 1958 and 1962?"

The following figures are the average of the rates quoted by the hospitals which supplied answers to the foregoing question. They are therefore indicative rather than precise.

	1953	1958	1962
Room Rates			
Private Room	$14	$18	$25
Semi-Private Room	11	15	20
Ward	9	13	18
Price for a			
G.I. Series	$27	$29	$33
Unit of Blood	36	37	34
14 x 17 Chest X-Ray	11	12	13
Recovery Room – use per hour (1)	$ 9	$ 9	$10
Operating Room – use per hour (1)	25	31	37

(1) Basic rate; in some cases a different charge applies to hours beyond the first one.

Note:

Number of hospitals for which room rates are averaged: Private Room – 34 hospitals; Semi-Private – 35 hospitals; Ward – 33, 34, and 30 for the three separate years, respectively.

Number of hospitals for which prices were averaged: G.I. Series – 28, 32, and 32, respectively; Unit of Blood – 24, 28, and 28, respectively; Chest X-Ray – 29, 31, and 32, respectively; Recovery Room – 3, 9, and 23, respectively; Operating Room – 27, 31, and 34, respectively.

EXHIBIT NO. 25
(Page 1 of 2)

MARYLAND HOSPITAL SURVEY

DIVISION OF TOTAL COSTS INTO "HOTEL–LIKE" AND "PATIENT CARE" COSTS

I. "Hotel–Like" Costs (an approximate term)

	1953			1958			1962		
	Personnel Per 1,000 Patient Days(a)	Inpatient Salary Costs Per Patient Day	Total Costs Per Patient Day(b)	Personnel Per 1,000 Patient Days	Inpatient Salary Costs Per Patient Day	Total Costs Per Patient Day	Personnel Per 1,000 Patient Days(a)	Inpatient Salary Costs Per Patient Day	Total Costs Per Patient Day(b)
Administration	.47	$ 1.20	$1.99	.54	$ 1.74	$ 2.99	.60	$ 2.30	$ 4.02
Dietary	.67	1.10	2.97	.70	1.36	3.24	.71	1.75	3.49
Household	1.03	1.72	3.07	1.00	2.06	3.67	.96	2.55	4.80
Depreciation & Interest			.91			1.23			1.83
Total	2.17	$ 4.02	$ 8.94	2.24	$ 5.16	$11.13	2.27	$ 6.60	$14.14
% Increase, 1962 over 1953							5%	64%	58%
Inpatient Salary Costs per patient day increased (1962 over 1953)						$2.58	(64%)		
Non-Salary Costs (mainly food, materials, service) increased						1.70	(42%)		
Depreciation and interest charges increased						.92	(100%)		
						$5.20			

II. "Patient Care" Costs

General Professional Care	.62	$ 1.07	$ 2.42	.70	$ 1.71	$ 3.60	.73	$ 2.54	$ 4.68
Nursing	2.24	4.69	4.89	2.47	6.72	7.07	2.66	8.12	8.53
Special Services	.89	2.17	3.11	1.04	3.69	5.33	1.29	5.40	7.75
Total	3.75	$ 7.93	$10.42	4.21	$12.12	$16.00	4.68	$16.06	$20.96
% Increase, 1962 over 1953							25%	102%	101%
Inpatient Salary Costs per patient day increased (1962 over 1953)						$ 8.13	(103%)		
Non-Salary Costs increased (chiefly material and laboratory supplies)						2.41	(98%)		
						$10.54			
III. Total Costa	5.92 person	$11.95	$19.36	6.45 person	$17.28	$27.13	6.95 peraon	$22.66	$35.10

(a) 90% of the total increase in the personnel required per 1,000 patient days occurred in the "Patient Care" category, and 10% of it occurred in the "Hotel–Like" category.

(b) 67% of the total increase in costs per patient day occurred in the "Patient Care" category and 33% of it occurred in the "Hotel–Like" category.

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IV. Compariaon with a similar study made in 1960 by a New Jersey Commission:

	1953			1958		
	Hotel-Like Costs	Patient Care Costs	Total Costs	Hotel-Like Costs	Patient Care Costs	Total Costs
New Jeraey (Excludea Depreciation and Intereat)						
Inpatient aalary costs per patient day	$ 5.01	$ 8.95	$13.96	$ 6.26	$12.89	$19.15
Total costa per patient day	9.03	12.44	21.47	10.70	17.73	28.43
Maryland (Above coata excluding Depreciation and Interest)						
Inpatient salary costa per patient day	$ 4.02	$ 7.93	$11.95	$ 5.16	$12.12	$17.28
Total coats per patient day	8.03	10.42	18.45	9.90	16.00	25.90

MARYLAND HOSPITAL SURVEY

SUMMARY OF TOUCHE, ROSS, BAILEY & SMART DETAILED COST ANALYSIS

OF THE HOSPITAL SAMPLE

1953

	Total*	Type of Hospital: Large Teaching	Large City	Small City	Large County	Small County
1. Personnel per 1,000 Patient Days	Full Time Inpatient Employees (including equivalent full-time temporary)					
Administrative	.47	.60	.32	.65	.44	.43
Dietary	.67	.79	.57	.73	.65	.69
Household	1.03	1.18	1.09	1.17	.81	.68
"Hotel-Like" Operations	2.17	2.57	1.98	2.55	1.90	1.80
General Professional Care	.62	.94	.67	.44	.41	.17
Nursing	2.24	2.41	1.95	2.78	2.00	2.50
Special Services	.89	1.38	.50	.75	1.04	.59
"Patient Care" Operations	3.75	4.73	3.12	3.97	3.45	3.26
Total	5.92	7.30	5.10	6.52	5.35	5.06
2. Total Cost per Patient Day						
Administrative	$ 1.99	$ 2.91	$ 1.47	$ 2.10	$ 1.56	$ 1.76
Dietary	2.97	3.30	2.85	3.00	2.96	2.55
Household	3.07	3.20	3.60	2.99	2.51	2.22
Depreciation & Interest	.91	1.36	.56	.77	.98	1.08
"Hotel-Like" Costs	$ 8.94	$10.77	$ 8.48	$ 8.86	$ 8.01	$ 7.61
General Professional Care	$ 2.42	$ 3.17	$ 2.23	$ 2.64	$ 1.89	$ 1.93
Nursing	4.89	5.80	4.10	5.78	4.60	4.86
Special Services	3.11	4.24	2.67	2.56	3.16	2.44
"Patient Care" Costs	$10.42	$13.21	$ 9.00	$10.98	$ 9.65	$ 9.23
Total	$19.36	$23.98	$17.48	$19.84	$17.66	$16.84

1962

3. Personnel per 1,000 Patient Days	Full Time Inpatient Employees (including equivalent full-time temporary)					
Administrative	.60	.72	.59	.67	.53	.52
Dietary	.71	.81	.71	.80	.60	.69
Household	.96	1.10	.99	1.08	.81	.74
"Hotel-Like" Operations	2.27	2.63	2.29	2.55	1.94	1.95
General Professional Care	.73	1.20	.73	.65	.58	.25
Nursing	2.66	2.95	2.89	2.93	2.03	2.62
Special Services	1.29	1.83	1.05	1.08	1.42	.81
"Patient Care" Operations	4.68	5.98	4.67	4.66	4.03	3.68
Total	6.95	8.61	6.96	7.21	5.97	5.63
4. Total Cost per Patient Day						
Administrative	$ 4.02	$ 5.65	$ 3.66	$ 4.15	$ 3.16	$ 3.36
Dietary	3.49	3.60	3.65	3.63	3.46	3.01
Household	4.80	6.06	4.94	4.49	4.27	3.50
Depreciation & Interest	1.83	2.23	2.22	1.09	1.47	1.58
"Hotel-Like" Costs	$14.14	$17.54	$14.47	$13.36	$12.36	$11.45
General Professional Care	$ 4.68	$ 5.81	$ 4.80	$ 6.43	$ 3.54	$ 3.04
Nursing	8.53	9.91	8.42	9.14	7.87	7.44
Special Services	7.75	10.60	7.47	6.81	7.16	5.72
"Patient Care" Costs	$20.96	$26.32	$20.69	$22.38	$18.57	$16.20
Total	$35.10	$43.86	$35.16	$35.74	$30.93	$27.65

*Data for the Special Hospitals included herein are not shown separately in this exhibit.

MARYLAND AND NATIONAL DATA

Exhibit No. 26 – Data Re "Non Federal Short Term General and Other Special Hospitals"

Exhibit No. 27 – Data on Hospital Usage – Maryland Blue Cross Experience Versus Country-Wide Blue Cross Experience

Exhibit No. 28 – Index Numbers About Consumer Prices and Some Medical Care Costs

MARYLAND HOSPITAL SURVEY

DATA RE "NON FEDERAL SHORT TERM GENERAL AND OTHER SPECIAL HOSPITAL" GROUP TAKEN FROM STATISTICS GATHERED BY "JOURNAL OF THE AMERICAN HOSPITAL ASSOCIATION"

Taken from August 1, 1963 Issue, Part Two, Pages 448–486

From Table 1 (Page 448) USA TOTALS	1953	1958	1962 Total Hospitals	1962 Accredited Hospitals Only (Page 482)
Hospitals	5,212	5,290	5,564	3,169
Beds	546,000	610,000	677,000	575,000
Admissions	18,098,000	21,684,000	24,307,000	20,565,000
Average Daily Census*	394,000	451,000	509,000	445,000
Percent Occupancy	72.0%	73.9%	75.1%	77.4%
Average Length of Stay	7.9 days	7.6 days	7.6 days	7.9 days (computed)
Personnel (Full Time)	719,000	984,000	1,207,000	1,074,000
Personnel per 100 Average Daily Patients	183	218	237	241
Expense – Payroll	$1,704,000,000	$2,831,000,000	$4,233,000,000	$3,826,000,000
Per Patient Day	$ 11.86	$ 17.19	$ 22.79	$ 23.57
– Total	$2,868,000,000	$4,655,000,000	$6,841,000,000	$6,118,013,000
Per Patient Day	$ 19.95	$ 28.27	$ 36.83	$ 37.69

*Patient Days would be this figure times 365

EXHIBIT NO. 26
(Page 2 of 4)

Data Re "Non Federal Short Term General and Other Special Hospitals"

From Table 2
(Page 450–451) – for Year 1962

	USA Total	Sponsorship: Voluntary	Sponsorship: Proprietary	Sponsorship: State and Local Governments
Hospitals	5,564	3,346	860	1,358
Beds	676,795	471,868	40,409	164,518
Admissions	24,307,271	17,531,713	1,674,292	5,101,266
Average Daily Census	508,791	362,632	27,199	118,960
Occupancy	75.1%	76.8%	67.3%	72.3%
Average Daily Stay	7.6 days	7.5 days	5.9 days	8.5 days
Full Time Personnel	1,207,494	875,026	56,591	275,877
Full Time Personnel per 100 Patients	237	241	208	232
Payroll Expense (000)	$4,233,332	$3,071,067	$ 176,785	$ 985,470
Payroll Expense per Patient Day	$ 22.79	$ 23.20	$ 17.78	$ 22.69
Total Expense (000)	$6,840,984	$4,998,780	$ 345,990	$1,496,214
Total Expense per Patient Day	$ 36.83	$ 37.77	$ 34.80	$ 34.45

From Table 1
(Page 448)

Occupancy (%)	1953	72.0%	73.2%	63.9%	71.7%
	1958	73.9	75.7	66.7	70.7
	1962	75.1	76.8	67.3	72.3
Length of Stay (Days)	1953	7.9 days	7.6 days	5.6 days	10.3 days
	1958	7.6	7.4	5.6	9.0
	1962	7.6	7.5	5.9	8.5

Personnel per 100 Patients and Payroll per Patient Day

	Persons	Payroll	Persons	Payroll	Persons	Payroll	Persons	Payroll
1953	183	$11.86	193	$12.35	161	$ 9.50	161	$11.10
1958	218	$17.19	224	$17.71	189	$13.21	206	$16.51
1962	237	$22.79	241	$23.20	208	$17.78	232	$22.69

Total Expense per Patient Day

1953	$19.95	$21.09	$18.75	$17.14
1958	$28.27	$29.24	$26.15	$25.82
1962	$36.83	$37.77	$34.80	$34.45

For a Total of 5,283 Short Term and Other Special Hospitals
(Which is a Bit Less Than the 5,564 Total for Country)
Data are for 1962

From Table 4 (Pages 474–475)	Total	Under 25 Beds	25-49	50-99	100-199	200-299	300-399	400-499	500 and Over
Hospitals	5,283	556	1,316	1,364	1,032	527	247	112	129
Beds	645,564	9,743	46,329	93,811	142,308	126,075	82,754	48,973	95,571
Census	484,877	5,419	28,405	62,892	105,774	98,817	66,964	39,803	76,803
Total Personnel									
Full Time	1,035,587	9,761	51,751	121,871	220,715	216,830	148,480	89,021	177,158
Part Time	222,532	3,589	15,833	31,614	53,668	51,639	30,425	14,701	21,063
Administrative General									
Full Time	109,547	1,554	6,219	13,529	22,878	22,224	15,416	9,441	18,286
Part Time	21,624	368	1,433	2,665	4,835	5,032	3,632	1,693	1,966
Dietary									
Full Time	111,677	1,057	6,024	14,082	24,257	22,753	15,638	9,411	18,455
Part Time	29,390	510	2,090	3,852	7,108	6,970	3,809	2,052	2,999
Household & Property									
Full Time	161,711	1,254	6,960	17,660	34,188	34,085	24,005	14,305	29,254
Part Time	15,064	440	1,929	2,648	3,583	3,073	1,556	658	1,177
Professional Care of Patients									
Full Time	584,160	5,300	30,027	71,263	127,599	123,206	84,017	46,952	95,796
Part Time	143,274	2,005	9,503	21,141	35,632	33,397	19,499	9,048	13,049
Other									
Full Time	68,492	596	2,521	5,337	11,793	14,562	9,404	8,912	15,367
Part Time	13,180	266	878	1,308	2,510	3,167	1,929	1,250	1,872

EXHIBIT NO. 26
(Page 4 of 4)

Data Re "Non Federal Short Term General and Other Special Hospitals" for 1962

From Table 6 (Pages 482–483)	Total Hoapitals	Bed Size: Under 25	25-49	50-99	100-199	200-299	300-399	400-499	500 and over
Hospitals	5,564	632	1,424	1,417	1,050	534	251	117	139
Accredited Hospitals Only	3,169	2	322	874	950	518	248	117	138
Beds – All Hospitals	676,795	10,997	50,105	97,159	144,457	127,899	84,147	51,158	110,873
Accredited Hospitals Only	574,569	40	12,071	62,035	132,015	124,240	83,131	51,158	109,879
% Occupancy – All Hospitals	75.1%	56.3%	61.5%	67.0%	74.3%	78.4%	80.8%	81.2%	80.9%
Accredited Hospitals Only	77.4%	47.5%	65.9%	69.0%	74.7%	78.5%	81.0%	81.2%	80.9%
Full Time Personnel per 100 Patients – All Hospitals	237	213	208	218	231	247	245	241	246
Accredited Hospitals Only	241	226	227	226	237	247	245	242	246
Payroll Expense per patient day All Hoapitals	$22.79	$16.25	$17.44	$18.79	$21.45	$24.11	$24.24	$24.53	$26.20
Accredited Hoapitals Only	$23.57	$26.10	$20.68	$19.88	$21.65	$24.17	$24.78	$24.53	$26.09
Total Expense per patient day All Hospitals*	$36.83	$29.38	$31.19	$32.65	$35.55	$38.74	$38.85	$38.71	$39.31
Accredited Hoapitals Only	$37.69	$44.27	$35.77	$33.99	$35.75	$38.84	$38.87	$38.71	$39.17
Total Hospitals Only (P. 450) Average Length of Stay	7.6 days	5.6 days	5.8 daya	6.4 days	7.0 days	7.7 days	8.0 daya	8.6 daya	10.9 daya
Average Daily Census	508,791	6,187	30,790	65,070	107,265	100,220	68,021	41,518	89,720
Admiaaiona (000)	24,307	403	1,936	3,705	5,618	4,781	3,110	1,756	2,998
Full Time Personnel	1,207,494	13,237	64,283	142,434	251,651	247,374	166,773	100,417	221,325

*A combination of certain groups so as to give data comparable to Maryland groupings: 400-99, plus 500 and over – $39.12; 200-299 plua 300-399 – $38.79; and 50-99 plus 100-199 – $34.46 per patient day.

Larger and Smaller Hospitals in Maryland, and in U.S.A. as a Whole

1962 Data

	Maryland				U.S.A. as a Whole*			
	No. of Hospitals		No. of Beds		No. of Hospitals		No. of Beds	
	Amount	% of Total	Amount	% of Total	Amount	% of Total	Amount	% of Total
Hospitala with Beds of –								
Under 50	5	11.4	168	1.8)	2,056	36.9	61,102	9.0)
50 – 99	11	25.0	776	8.4)	1,417	25.5	97,159	14.4)
100 – 199	10	22.7	1,583	17.2)27.4%	1,050	18.9	144,457	21.3)44.7%
200 – 299	9	20.5	2,367	25.7)49.5%	534	9.6	127,899	18.9)31.3%
300 – 399	6	13.6	2,199	23.8)	251	4.5	84,147	12.4)
400 – 499	1	2.3	447	4.8)23.1%	117	2.1	51,158	7.6)24.0%
500 and over	2	4.5	1,684	18.3)	139	2.5	110,873	16.4)
Total	44	100.0%	9,224	100.0%	5,564	100.0%	676,795	100.0%

Note 1 – The relation of Admissions to population was

326,059 Admissions ÷ 3,233,000 = 101 per 1,000 people

24,307,000 Admissions ÷ 185,822,000 = 131 per 1,000 people

Note 2 – In relation to population – the beds available were

Beds per 1,000 people	2.9	3.6

*Data from Journal of the American Hospital Association, August 1, 1963, pages 450–1

EXHIBIT NO. 27

MARYLAND HOSPITAL SURVEY

DATA ON HOSPITAL USAGE
MARYLAND BLUE CROSS EXPERIENCE
VERSUS COUNTRY–WIDE BLUE CROSS EXPERIENCE

(Data from Maryland Hospital Service,
translated to index numbers with 1957 – 59 = 100)

	Hospital Admissions per 1,000 Subscribers				Days of Hospital Care per 1,000 Subscribers				Average Length of Stay-Days			
	Maryland Blue Cross Plan		All Blue Cross Plans		Maryland Blue Cross Plan		All Blue Cross Plans		Maryland Blue Cross Plan		All Blue Cross Plans	
	Number	Index	Number	Index	Number	Index	Number	Index	Number	Index	Number	Index
1952	111	93.3	126	91.3	819	92.6	924	90.9	7.37	99.5	7.40	99.7
1953	109	91.6	129	93.5	788	89.1	934	91.8	7.24	97.7	7.30	98.4
1955	111	93.3	131	94.9	835	94.5	973	95.7	7.50	101.2	7.45	100.4
1957	118	99.2	135	97.8	867	98.1	995	97.8	7.34	99.1	7.36	99.2
1958	118	99.2	138	100.0	883	99.9	1,016	99.9	7.46	100.7	7.40	99.7
1960	119	100.0	141	102.2	926	104.8	1,060	104.2	7.77	104.9	7.62	102.7
1961	121	101.7	142	102.9	967	109.4	1,101	108.3	7.97	107.6	7.75	104.4
1962	123	103.4	144	104.3	979	110.7	1,126	110.7	7.97	107.6	7.85	105.8

EXHIBIT NO. 28

MARYLAND HOSPITAL SURVEY

INDEX NUMBERS ABOUT CONSUMER PRICES AND SOME MEDICAL CARE COSTS

	U. S. Department of Labor-Consumer Price Index					Maryland Data (From Blue Cross files)	
		"Medical Care," and some details thereof included in Consumer Price Index (All Based on 1957 – 59 = 100)				Per Diem Hospital Costs for the 34 member hospitals (in Maryland)	
	Total Consumer Price Index (1957 – 59 = 100)	Total "Medical Care Service"	Physician Fees	Hospital Insurance	Hospital Room Rates	Dollar Cost	Index 1957 – 59 = 100
1947	77.8	65.7				$12.25	44.1
1950	83.8	73.4			57.8	15.66	56.4
1952	92.5	81.1		67.3	70.4	19.22	69.3
1953	93.2	83.9	84.5	72.7	74.8	20.00	72.1
1955	93.3	88.6	90.0	80.1	83.0	22.36	80.6
1957	98.0	95.5	96.7	90.1	94.5	25.58	92.2
1958	100.7	100.1	100.0	99.4	99.9	27.76	100.0
1960	103.1	108.1	106.0	120.9	112.7	32.42	116.8
1961	104.2	111.3	108.7	130.0	121.3	34.40	124.0
1962	105.4	114.2	111.9	136.0	129.8	35.48	127.9

MARYLAND HOSPITAL SURVEY

MEDICAL AUDIT

Exhibit No. 29 – Findings in a Medical Audit of all the 7,809 patients hospitalized in all 44 general hospitals in Maryland on March 12, 1963 (other than newborn, premature births, or psychiatric cases), by a Doctor's Case Evaluation.

1. "If you were the patient's physician, and you had the same basis for decision, would you have hospitalized him?"

2. "If you would not have admitted this patient, why not?"

3. "Do you believe this admission was primarily for diagnostic purposes?"

4. "Was the admission (for diagnostic purposes) apparently influenced by the existence of insurance coverage?"

5. "Was duration of hospitalization needlessly prolonged?
Excessive or unnecessary laboratory tests or X-Rays?
Were unnecessary procedures of any sort performed?"

Exhibit No. 30 – Length of Stay Up to and Including March 12, 1963 of All Patients in Maryland's Hospitals on That Day.

Exhibit No. 31 – Number of Patients by Type of Payment and by Type of Case.

Exhibit No. 32 – Number of Patients by Age Groups and by Type of Payment.

Exhibit No. 33 – Number of Patients and Length of Stay to and Including March 12, 1963 by Type of Hospital and Type of Payment.

Exhibit No. 34 – Profile of the "Certified Medically Indigent" Patient.

1. For the 2,106 patients other than obstetrical or pediatric cases.

2. For the 652 Obstetrical Patients.

3. For the 345 Pediatric Patients.

Exhibit No. 35 – Certain Characteristics of "Blue Cross," "Certified Medically Indigent," and "All Other" Types of Patient.

1. Age Groupings of Patients in the 2,106-patient sample, and the Average Length of Stay for Each Age Bracket, classified according to "Blue Cross," "Certified Medically Indigent," and "All Other" Patients.

2. Average Length of Stay, classified according to "Blue Cross," "Certified Medically Indigent," and "All Other" patients in the 2,106-patient sample (652 Obstetrical and 345 Pediatric cases were excluded).

3. The proportion of "Blue Cross," "Certified Medically Indigent," and "All Other" types of patient in the 2,106-patient sample, classified according to the size and type of hospital.

Exhibit No. 36 – Type of Medical Case, other than Obstetrical and Pediatric, Classified according to "Blue Cross," "Certified Medically Indigent," and "All Other" Types of Patient.

MARYLAND HOSPITAL SURVEY

Findings in a Medical Audit of all the 7,809 patients hospitalized in all 44 general hospitals in Maryland on March 12, 1963 (other than newborn, premature births, or psychiatric cases), by a Doctor's Case Evaluation

(The 7,809 cases represented an occupancy factor of 86% of all the available beds)

1. "If you were the patient's physician, and you had the same basis for decision, would you have hospitalized him?" (No Non-Medical facts, such as home conditions, personal complications, etc. were made available to the reviewing physician)

	Findings by both reviewing physicians	Cases where one reviewing physician would not have admitted the patient	Total of two-reviewer plus one-reviewer findings
No, would not have admitted patient	45 cases	376 cases	421 cases
Doubtful whether case should have been admitted, or not	94 cases	346 cases	440 cases
Yes, would have admitted patient	6,948 cases	-	6,948 cases
Total of all 7,809 cases	7,087 cases	722 cases	7,809 cases
Percentage of the total of all hospitalized cases:			
No, would not have admitted	.6%	4.8%	5.4%
Doubtful whether case should have been admitted or not	1.2%	4.4%	5.6%

Note: The medical records for all the 7,809 patients hospitalized on March 12, 1963 were separately examined by two pairs of physicians, working independently, except for 244 cases which were not examined by the second physicians

MARYLAND HOSPITAL SURVEY

Medical Audit

2. "If you would not have admitted this patient, why not?"

	Reason given for disagreeing with admission of patient				
	Not severe enough	Insufficient preadmission diagnosis	Could have been treated outside the hospital	Other reason not specified	Total cases
a. Where both reviewing physicians agreed that patient should not have been admitted					
Both reviewers, on the same case	3	1	12	–	16
One reviewer	15	9	5	–	29
	18	10	17	–	45
b. Where one reviewing physician, but not the other, would not have admitted the patient	96	64	160	56	376
c. Total cases, where one or both reviewers would not have admitted	114	74	177	56	421
d. Where both reviewing physicians believed the admission of patient was doubtful					
Both reviewers, on the same case	4	4	3	5	16
One reviewer	29	23	26	–	78
	33	27	29	5	94
e. Where one reviewing physician, but not the other, believed admission of patient was doubtful	35	39	95	177	346
f. Total cases, where one or both reviewers believed admission of patient was doubtful	68	66	124	182	440
Percentage of each reason given, to the total 7,809 cases examined					
Where one or both reviewers would not have admitted the patient	1.4%	1.0%	2.3%	.7%	5.4%
Where one or both reviewers believed the admission was doubtful	.9	.8	1.6	2.3	5.6

MARYLAND HOSPITAL SURVEY

Medical Audit

3. "Do you believe this admission was primarily for diagnostic purposes?"

	Findings by both reviewing physicians	Cases where one reviewing physician would not have admitted the patient	Total of two-reviewer plus one-reviewer findings	
Yes, for diagnostic reasons	228	801	1,029	13.2%
Doubtful	196	73	269	3.4%
No – not for diagnostic reasons	6,511	–	6,511	83.4%
Total of all 7,809 cases	6,935	874	7,809	100.0%

4. "Was the admission (for diagnostic purposes) apparently influenced by the existence of insurance coverage?"

Yes	2.9%
Doubtful	3.9%

MARYLAND HOSPITAL SURVEY

5. "Was duration of hospitalization needlessly prolonged? Excessive or unnecessary laboratory tests or X-rays? Were unnecessary procedures of any sort performed?"

	Overstay (insofar as Medical reasons alone are involved)	Unnecessary laboratory tests or X-rays	Unnecessary Procedures
a. Where admission of patient was questioned by reviewing physician			
(1) Both reviewing physicians would not have admitted	28 cases	13 cases	8 cases
(2) One reviewing physician would not have admitted	187	61	72
(3) Total (would not have admitted)	215 cases	74 cases	80 cases
(4) Both reviewing physicians considered admission doubtful	64 cases	28 cases	25 cases
(5) One reviewing physician considered admission doubtful	131	44	35
(6) Total (admission doubtful)	195 cases	72 cases	60 cases
b. Where admission was agreed to by reviewing physician			
(7) Both reviewing physicians agreed that patient should have been admitted	704 cases	320 cases	167 cases
(8) One reviewing physician (but not the other) agreed that patient should have been admitted (the cases in this group are the same cases as in a-(2) above)	84	29	19
(9) Total (admission agreed to)	788 cases	349 cases	186 cases
c. Total findings in all 7,809 cases (line b-(8) eliminated because of duplication)	1,114 cases	466 cases	307 cases
Percentage to 7,809 total cases	14%	6%	4%

Note: The cases involving unnecessary laboratory tests or X-rays, and also unnecessary procedures, are, to a considerable extent, the same as are involved in the "overstay" cases.

EXHIBIT NO. 30

MARYLAND HOSPITAL SURVEY

LENGTH OF STAY UP TO AND INCLUDING MARCH 12, 1963 OF ALL PATIENTS IN MARYLAND'S HOSPITALS ON THAT DAY

Percentage of patients whose length of stay up to and including March 12 was	Blue Cross Patients	Certified Indigent Patients	All Other Patients	Total Patients	Michigan Hospital Cases on Nov. 15, 1962*	
					Blue Cross	Total
1 – 5 days (including day of admission for the Maryland Hospitals)	54.3%	44.4%	54.9%	52.9%	48.1%	49.3%
6 – 10 days	20.9	18.6	19.1	19.8	21.2	20.0
11 – 15 days	10.7	12.5	9.2	10.4	11.1	10.6
16 – 20 days	6.0	6.9	5.0	5.8	6.3	6.0
21 – 30 days	5.0	8.2	5.6	5.8	6.1	6.2
31 days and over	3.1	9.4	6.2	5.3	7.2	7.9
Total patients	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

* "One Day Census – A Study of Patients in Michigan Hospitals on November 15, 1962," Part I, page 82.

EXHIBIT NO. 31

MARYLAND HOSPITAL SURVEY

NUMBER OF PATIENTS BY TYPE OF PAYMENT AND BY TYPE OF CASE

Type of Payment	OB		Surgical		Medical		Total	
	No. of Patients	% of Total	No. of Patients	% of Total	No. of Patients	% of Total	No. of Patients	% of Total
Blue Cross	533	41.7%	1,488	45.7%	1,512	46.1%	3,533	45.3%
Certified Indigent	210	16.5	485	14.9	603	18.4	1,298	16.6
All Other	534	41.8	1,281	39.4	1,163	35.5	2,978	38.1
Total	1,277	100.0%	3,254	100.0%	3,278	100.0%	7,809	100.0%
% of Total	16.3%		41.7%		42.0%		100.0%	

EXHIBIT NO. 32

MARYLAND HOSPITAL SURVEY

NUMBER OF PATIENTS BY AGE GROUPS AND BY TYPE OF PAYMENT

	Blue Cross		Certified Indigent		All Other		Total	
Age Group	No. of Patients	% of Total	No. of Patients	% of Total	No. of Patients	% of Total	No. of Patients	% of Total
Under 20	514	14.5%	302	23.3%	512	17.2%	1,328	17.0%
20–44	1,090	30.9	328	25.3	989	33.2	2,407	30.8
45–64	1,295	36.7	305	23.5	832	27.9	2,432	31.2
65 & Over	634	17.9	363	27.9	645	21.7	1,642	21.0
Total	3,533	100.0%	1,298	100.0%	2,978	100.0%	7,809	100.0%
% of Total	45.3%		16.6%		38.1%		100.0%	

EXHIBIT NO. 33

MARYLAND HOSPITAL SURVEY

NUMBER OF PATIENTS AND LENGTH OF STAY UP TO AND INCLUDING MARCH 12, 1963 BY TYPE OF HOSPITAL AND TYPE OF PAYMENT

	Blue Cross			Certified Indigent			All Other			Total		
Hospital Type	No. of Patients	% of Total	No. of Days	No. of Patients	% of Total	No. of Days	No. of Patients	% of Total	No. of Days	No. of Patients	% of Total	No. of Days
Teaching	742	21.0%	6,528	380	29.3%	4,014	545	18.3%	7,818	1,667	21.3%	18,360
Large City	1,153	32.6	10,265	370	28.5	4,967	777	26.1	7,310	2,300	29.5	22,542
Small City	452	12.8	3,429	109	8.4	1,349	260	8.7	2,303	821	10.5	7,081
Large County	707	20.0	5,625	214	16.5	2,204	797	26.8	25,043	1,718	22.0	32,872
Small County	423	12.0	2,762	168	12.9	2,109	553	18.6	6,396	1,144	14.7	11,267
Special	56	1.6	345	57	4.4	1,676	46	1.5	479	159	2.0	2,500
Total	3,533	100.0%	28,954	1,298	100.0%	16,319	2,978	100.0%	49,349	7,809	100.0%	94,622
% of Total	45.3%			16.6%			38.1%			100.0%		

MARYLAND HOSPITAL SURVEY

PROFILE OF THE "CERTIFIED MEDICALLY INDIGENT" PATIENT

These tabulations pertain to an approximately equal number of patients other than obstetrical and pediatric cases who were discharged at each hospital in Maryland beginning on March 18, 1963 (2106 patients), together with 345 pediatric and 652 obstetrical patients discharged at the same time. The total sample is 3103.

1. For the 2106 patients other than obstetrical or pediatric cases

(a) The general type of treatment involved was as follows:

	Medical Cases	Surgical Cases	Total Cases
Blue Cross Patients	341	623	964
Certified Medically Indigent Patients	128	144	272
All Other Patients	368	502	870
	837	1,269	2,106

For Certified Medically Indigents, the medical and surgical cases were divided approximately half and half; for the two other groups the surgical cases were much more than the medical cases.

(b) For the entire 2106-patient sample the lengths of stay were shorter for the younger ages and longer for the older ages.

	Average Length of Stay
Under 20 years (372 cases)	4.5 days
20-44 years (678 cases)	7.4 days
45-64 years (646 cases)	10.8 days
65 and over (410 cases)	13.3 days
Overall average	9.1 days

(c) A larger fraction of the Certified Medically Indigents were concentrated in the 65-and-over age bracket than were the "Blue Cross" and "All Other" groups; and a lesser fraction were concentrated in the Under-20 and the 20-44 year ages:

	% of Patients in Each Age Bracket		
	Certified Medically Indigent Patients	Blue Cross Patients	All Other Patients
Under 20 years	16.2%	19.1%	16.5%
20-44 years	26.1%	32.8%	33.5%
45-64 years	27.2%	34.3%	27.7%
65 and over	30.5%	13.8%	22.3%
	100.0%	100.0%	100.0%

(d) The Certified Medically Indigent patient was concentrated to a substantially greater degree in the longer-duration type of case, and to a substantially lesser degree in the shorter-duration type of case, than the "Blue Cross" or "All Other" type of patient.

The 2,106 cases were classified into fifteen types of illness. The average length of stay for all cases in this sample was 9.1 days. For five of the fifteen types of illness (representing nearly half the total patients) the length of stay was less than the 9.1-day average (e.g., the "Eye, Ear, Nose and Throat".... "Diseases of the Digestive Tract" groups). For the other ten of the fifteen types, the length of stay was more than the 9.1-day average (e.g., the "Miscellaneous Disorders"...."Malignant Neoplasms" groups).

A striking disparity between Certified Medically Indigent and the other two groups is apparent – (the percentages mean, for example, "35% of all Indigent patients were in the shorter-stay type and 65% were in the longer-stay type of illness").

	Certified Medically Indigent	Blue Cross	All Other
Shorter-stay types of illness	35%	49%	42%
Longer-stay types of illness	65%	51%	58%

These results are probably related to the fact that a larger fraction of the Certified Medically Indigent group are in the "65 and over" age bracket.

(e) The length of stay for Certified Medically Indigent patients was approximately 50% longer than for the "Blue Cross" and the "All Other" groups.

	Certified Medically Indigent	Blue Cross	All Other
Average Length of Stay	12.6 days	8.7 days	8.5 days

These differences grow out of the lesser proportions of the Certified Medically Indigent whose stays are in the 1–5 day range and the much larger proportions whose stays are in the 21–30 day and 31–120 day ranges. In the longest category the percentage for Certified Medically Indigent patients is three to six times what it was in the other two groups.

Length of Stay	% of the Total Cases Which Were in Each Length-of-Stay Period		
	Certified Medically Indigent	Blue Cross	All Other
1– 5 days	26.1%	43.2%	47.4%
6–10 days	29.4%	26.8%	25.4%
11–15 days	18.0%	13.4%	12.9%
16–20 days	9.2%	8.4%	5.6%
21–30 days	9.9%	7.0%	6.2%
31–120 days	7.4%	1.2%	2.5%
(1 case was longer than 120 days; it was an "All Other" type)	100.0%	100.0%	100.0%

It would appear that the larger fraction of older age people and the longer-type illness, which characterize the Certified Medically Indigent group, are a primary cause of the longer duration of stay which also characterizes that group in comparison with the other groups of patients.

(f) For the sample studied, the Certified Medically Indigent patients constituted a much larger fraction of the total patients in the case of the "Large Teaching Hospitals" than for the other hospitals. They constituted a larger fraction in the city hospitals than in the county hospitals. They were a surprisingly low fraction (in this sample) in the "Large County" group of hospitals.

2. For the 652 Obstetrical Patients

(a) The proportion which obstetrical cases bear to the total in each group is:

	Obstetrical Cases Only	Total Cases	% Obstetrical to Total
Blue Cross Patients	200	1,314	15.2%
Certified Medically Indigent Patients	129	474	27.2%
All Other Patients	323	1,315	24.6%
Total Patients	652	3,103	

(b) The average length of stay for obstetrical patients was:

Blue Cross Patients	3.6 days	
Certified Medically Indigent Patients	3.8 days	(3.3 days if 2 cases involving
All Other Patients	3.4 days	more than 15 days' stay are
Total Patients	3.6 days	excluded. The other groups
		had no "over 15 days" stay.)

There was no significant difference in the length of stay of obstetrical patients as between the Certified Medically Indigent and the other groups. The proportion of obstetrical to total cases was somewhat larger for the Certified Medically Indigent group than for the other groups.

3. For the 345 Pediatric Patients

(a) The proportion which pediatric cases bear to the total of each group is:

	Pediatric Cases Only	Total Cases	% Pediatric to Total
Blue Cross Patients	150	1,314	11.4%
Certified Medically Indigent Patients	73	474	15.4%
All Other Patients	122	1,315	9.3%
Total Patients	345	3,103	

(b) The average length of stay was:

Blue Cross Patients	4.6 days	(4.7% of cases were beyond 15 days)
Certified Medically Indigent Patients	8.5 days	(15.1% of cases were beyond 15 days)
All Other Patients	5.2 days	(5.7% of cases were beyond 15 days)
Total Patients	5.7 days	

EXHIBIT 35

MARYLAND HOSPITAL SURVEY

Certain Characteristics of "Blue Cross," "Certified Medically Indigent," and "All Other" Types of Patient

1. Age Groupings of Patients in the 2,106-patient sample, and the Average Length of Stay for Each Age Bracket, Classified According to "Blue Cross," "Certified Medically Indigent," and "All Other" Patients.

Age	Number of Cases	Average Length of Stay	Type of Patient (% Distribution)		
			Blue Cross	Certified Medically Indigent	All Other
Under 20	372	4.5 days	19.1%	16.2%	16.5%
20–44	678	7.4 days	32.8%	26.1%	33.5%
45–64	646	10.8 days	34.3%	27.2%	27.7%
65 and over	410	13.3 days	13.8%	30.5%	22.3%
	2,106	9.1 days	100.0%	100.0%	100.0%

2. Average Length of Stay, classified according to "Blue Cross," "Certified Medically Indigent," and "All Other" patients in the 2,106-patient sample (652 Obstetrical and 345 Pediatric cases were excluded).

Length of Stay – Days	Number of Cases			
1– 5	900	43.2%	26.1%	47.4%
6–10	559	26.8%	29.4%	25.4%
11–15	290	13.4%	18.0%	12.9%
16–20	155	8.4%	9.2%	5.6%
21–30	148	7.0%	9.9%	6.2%
31–120 (1 case over 120 days)	54	1.2%	7.4%	2.5%
	2,106	100.0%	100.0%	100.0%
Average Length of Stay	9.1 days	8.7 days	12.6 days	8.5 days

3. The proportion of "Blue Cross," "Certified Medically Indigent," and "All Other" types of patient in the 2,106-patient sample, classified according to the size and type of hospital.

Hospital Type			
Teaching	48.3%	22.7%	29.0%
Large City	54.5%	15.8%	29.7%
Small City	53.1%	12.8%	34.1%
Large County	45.9%	6.7%	47.4%
Small County	37.1%	12.3%	50.6%
Special	53.3%	14.0%	32.7%

Certified Medically Indigent patients are a larger fraction of total patients in the large teaching hospitals than in any other, and they are a larger fraction in city hospitals than in county hospitals. They are a surprisingly small fraction in the "Large County" hospital group.

EXHIBIT 36

MARYLAND HOSPITAL SURVEY

Type of Medical Case, other than Obstetrical and Pediatric, Classified According to "Blue Cross," "Certified Medically Indigent," and "All Other" Types of Patient

(2,106 cases, based on an approximate equal number of patients discharged at each hospital beginning March 18, 1963.)

Diagnosis	Average Duration in Days of the Type of Medical Case	Type of Patient (% Distribution)			Total Patients in Sample
		Blue Cross	Certified Medically Indigent	All Other	
Eye, Ear, Nose and Throat	3.9 days	13.4%	9.9%	9.3%	237
Benign Neoplasms	6.5 days	5.9%	2.6%	5.1%	108
Diseases of Genito-Urinary Tract	6.8 days	8.1%	7.7%	8.5%	173
Diseases of Skin	7.5 days	2.2%	1.1%	1.4%	36
Diseases of Digestive Tract	8.9 days	19.5%	13.2%	17.6%	377
Less Than Average Stay		49.1%	34.5%	41.9%	931
Miscellaneous Disorders	9.5 days	13.5%	18.4%	16.0%	319
Poisonings and Accidents	9.6 days	6.2%	8.8%	12.2%	190
Communicable Diseases	9.6 days	0.6%	1.9%	0.9%	19
Respiratory-Pulmonary Diseases	10.3 days	6.0%	9.2%	7.4%	147
Psychiatric Disorders	11.1 days	0.7%	1.1%	0.8%	17
Diseases of Bones, Joints, Muscles	11.5 days	4.0%	3.3%	3.8%	80
Blood Dycrasias	11.9 days	0.6%	1.1%	0.8%	16
Allergic Endocrine Disorders	12.3 days	3.6%	5.5%	1.7%	65
Cardiovascular Diseases	12.6 days	11.7%	11.8%	11.0%	241
Malignant Neoplasms	13.4 days	4.0%	4.4%	3.5%	81
More Than Average Stay		50.9%	65.5%	58.1%	1,175
TOTAL	9.1 days	100.0% (964 cases)	100.0% (272 cases)	100.0% (870 cases)	2,106

This tabulation shows that the Certified Medically Indigent type of patient (other than obstetrical and pediatric) is concentrated to a substantially greater degree in the longer-duration type of case, and to a substantially lesser degree in the shorter-duration type of case, than are the Blue Cross or the All Other type of patient.

MARYLAND HOSPITAL SURVEY

Report by Touche, Ross, Bailey & Smart

TOUCHE, ROSS, BAILEY & SMART

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February 21, 1964

The Commission to Study Hospital Costs
State of Maryland
State Office Building
Baltimore 2, Maryland

We have validated and compiled certain operating data submitted by Maryland hospitals in reply to the July, 1963 questionaire of the Commission. These data and our analysis of the data are submitted herewith.

General comments and recommendations dealing with hospital accounting and reporting are the subject of a separate letter to the Commission.

Touche, Ross, Bailey & Smart

Certified Public Accountants

REPORT TO THE COMMISSION

TO STUDY HOSPITAL COSTS

PROCEDURES TO COLLECT AND VALIDATE DATA

Reporting Categories. In order to analyze the trends in operating costs of Maryland short-stay general hospitals it was necessary to first design a reporting program which would enable the hospitals to report their operating expenses on a reasonably consistent and comparable basis. It was ascertained that the hospitals have been reporting operating expenses under a uniform account classification to Blue Cross of Maryland. This account classification system provided for reporting expenses by 26 departments. However, upon examination of reported expense figures it was found that there was a lack of consistency between the hospitals in the manner in which they charged expenses to the various departments. To overcome this deficiency and to provide data in a form better suited for comparative analysis, the 26 departments were combined into six reporting categories. By combining in each category those departments with common characteristics, the probability of misclassifications between categories was limited. The six categories are listed below along with the departmental composition of each category.

Reporting Category	Expense Departments
Administration	Administration
Dietary	Dietary
Household	Housekeeping Laundry Operation of plant Motor service Maintenance
General Professional Care	Medical and Surgical Pharmacy Medical records Anesthesia
Nursing	Nursing service Nursing education
Special Services	Operating rooms Delivery rooms X-ray Laboratory Electrocardiograph Physical therapy Radium therapy Social Service Outpatient Medical Care Other Rent Supplies

Reporting and Validation of Data. Reporting schedules were designed to request expense data by each of the six categories as well as depreciation, interest, and fringe benefits. In addition, the hospitals were requested to furnish personnel statistics by category. This was done so that the personnel figures could be directly related to salary expense and thus enhance their validity. Part-time personnel were reported on the basis of one part-time employee equalling one-half a full-time employee. Accordingly, the figures reported by the hospitals for part-time employees do not reflect the total number of part-time employees, but they do provide a comparable relationship between part-time and full-time employees. Personnel data were compared with reported salary expense by category as a test of the reasonableness of the personnel figures reported.

As a first step in validating the data, operating expenses reported to the Hospital Cost Analysis Service were reconciled with audit reports of the hospital's independent accountants, where these were available, for each hospital's fiscal year ending in 1962. Each hospital's reported departmental expenses were consolidated into totals by category and within each category into salary and other expense. The hospitals were furnished with the worksheets which had been compiled for their fiscal year ending in 1962. With the aid of the worksheets and written

instructions, the hospitals were requested to supply comparable expense data for their fiscal years ending in 1958 and in 1953.

Operating income and expense figures were requested from 42 Maryland short-stay general hospitals and from 3 short-term special hospitals for the hospitals' fiscal years ending in 1953, 1958, and 1962. Not all hospitals were able to supply all the data requested, and all schedules and exhibits in this report indicate the number of hospitals from which valid data were obtained for use in the schedules and exhibits.

After receiving the reporting schedules from the hospitals, the data submitted were examined for reasonableness. Total expense and the distribution between the various categories were compared with figures reported to the Maryland Blue Cross for the same periods. Many of the hospitals were requested to recheck their reported figures when the figures did not appear to be reasonable or consistent. In several cases the hospital's accounting records were examined by members of our staff.

In our opinion the data used in this report provide a reasonable reflection of the trends in operating expenses and income of the Maryland short-stay general and special hospitals which have provided the data used in this report.

INPATIENT–OUTPATIENT ALLOCATION

Among the many factors considered in examining total operating costs of Maryland hospitals were the usage of hospital facilities by inpatients and outpatients. If over the ten year period covered by the study both inpatient and outpatient usage had increased at the same rate, the trend in total operating costs could probably be evaluated without regard to the distinction between inpatient and outpatient costs. However, the trend in outpatient visits has been different than that of inpatient days. Consequently, we believed it advisable to allocate costs between inpatient and outpatient services.

Blue Cross Allocation Procedures. In 1953 most Maryland hospitals in reporting to Blue Cross allocated costs on the basis of one outpatient visit equalling three dollars of costs. In 1958 the allocation method used assumed that the cost of an outpatient visit was equal to one-fifth of the cost of an inpatient day. In 1962 costs were allocated in each department using such factors as outpatient department payroll, floor space, services, etc.

Evaluation of Blue Cross Allocations. The 1953 allocation method appears to be extremely arbitrary in that it assumes all hospitals have the same cost per outpatient visit. The 1958 allocation method has a similar defect in that it assumes all hospitals have the same cost relationship between inpatient days and outpatient visits. The 1962 method recognizes that each hospital may have a unique pattern of cost relationships between inpatient and outpatient costs. The 1962 allocation bases are quite detailed, are specifically designed for hospitals, and are generally accepted on a Nation-wide basis by hospitals and Blue Cross organizations.

Any allocation procedure is to some degree arbitrary. In an operation as complex as a hospital it would be unusual for two people acting independently to come up with the same allocation basis. Recognizing the inherent problems in any cost allocation method, we believe that the 1962 allocation method results in a reasonable and useful distribution of hospital operating costs between inpatient and outpatient services.

Consistent Allocation for Trend Analysis. The use of three different inpatient-outpatient cost allocation methods by the hospitals over the ten year period of the study results in a lack of comparability between years, since each of the different cost allocation methods results in a different total inpatient cost versus total outpatient cost as a base to compute unit costs for each type of service.

To achieve a degree of consistency in the inpatient-outpatient cost data for the three years, an allocation was made for the years 1953 and 1958 which approximates the results obtained by the allocation method used in 1962. For each hospital the relationship between the total unit cost per inpatient day (usually referred to as per diem) and outpatient visit in 1962 was determined. It was then assumed that this same relationship applied in the years 1953 and 1958, e.g., if the unit cost per outpatient visit for Hospital X was 25% of the unit cost per inpatient day in 1962, then the cost per outpatient visit in both 1953 and 1958 was also assumed to be 25% of the cost per inpatient day for those two years.

Using as a basis the computed relationship between the unit cost per inpatient day and outpatient visit, total costs were allocated between inpatient services and outpatient services. This procedure seemed to be the most feasible method under the circumstances since the great majority of the hospitals do not at this late date have the necessary data available to make the cost allocations for the years 1953 and 1958 on the same basis as that employed in 1962. Furthermore, the amount of effort required would have been unreasonable in our opinion.

An example of the allocation method is presented below:

Hospital X

1962	Inpatient	Outpatient	Total
Cost	$1,000,000	$500,000	$1,500,000
Operating Cost Percentage	66 2/3%	33 1/3%	100%
Services	25,000 days	50,000 visits	
Cost Per Service	$40	$10	

Service Cost Percentage = $\frac{\$10}{\$40}$ = 25%

1953			
Cost	$ 640,000 (A)	$160,000 (A)	$ 800,000
Operating Cost Percentage	80% (A)	20% (A)	100%
Services	20,000 days	20,000 visits	

Note A. Cost of an outpatient visit equals 25% of the cost of an inpatient day. Therefore, 20,000 outpatient services have a total cost equal to that of 5,000 inpatient days. The total "equivalent" inpatient days in 1953 are 25,000 (20,000 + 5,000). With total operating costs of $800,000, the total cost of inpatient services is 80% ($\frac{20,000}{25,000}$) of $800,000 or 640,000. The total cost of outpatient services is 20% ($\frac{5,000}{25,000}$) of $800,000 or $160,000.

The allocation procedure used has the advantage of taking into account the inpatient-outpatient cost relationship peculiar to each hospital. The per diem figures for inpatient costs computed after the allocation are figures which lend themselves to analysis on a consistent basis and recognize the varying patterns of inpatient and outpatient usage of facilities. On the other hand, the allocation procedure used does implicitly assume that such factors as wage levels, increases or decreases in hospital personnel per service, and changes in the quality of services offered affected both inpatient and outpatient costs in a like manner. In summary, it was believed that an allocation was essential and that the method used was the most feasible alternative available.

Allocation of Expense and Personnel by Categories. Total expense and related personnel data for each of the six reporting categories, e.g., Administration, were allocated on the same percentage relationship as total operating expenses. To illustrate, in Hospital X the total unit cost per outpatient visit in 1962 was 25% of the total unit cost per inpatient day, and the allocation resulted in 66 2/3% of total operating costs being charged to inpatients in 1962 ($\frac{\$1,000,000}{\$1,500,000}$ = 66 2/3%). In 1953 the allocation resulted in 80% of total operating costs being charged to inpatients. In this case, in 1962 66 2/3% of Administration and 66 2/3% of the expense and related personnel data for each other category would be allocated to inpatients. The same procedure would be followed in 1953 with the computed allocation percentage of 80%.

The allocation methods actually used by the hospitals in 1962 resulted in slightly different allocation percentages for each category of expense. However, the differences are not significant when the broad categories described earlier are used.

INPATIENT DAYS

Inpatient days were reported to the Commission by type of accomodation (e.g., semi-private) and by type of service (e.g., medical). It was found that the totals of patient days by service were frequently different from the totals of patient days by accomodation. Moreover, in many cases the patient day figures reported by the hospitals were not the same as the patient day figures reported to Blue Cross, as adjusted by audit.

There are many ways of accumulating patient day statistics. The statistical treatment given to new born baby days, intra-hospital patient transfers,

patients admitted and discharged on the same day, etc., all have an effect on the total of patient days.

The patient day figures reported by the hospitals to Blue Cross have the advantage of being compiled on a consistent and comparable basis and of having been audited and reviewed by Blue Cross as a basis for payment by that agency to the hospitals.

In our opinion the patient day figures reported by the hospitals to Blue Cross are the best available in terms of their consistency, comparability, and their relationship to reported cost figures. Consequently, we have used Blue Cross patient day figures throughout our analyses of hospital costs.

OPERATING EXPENSES

The total operating expenses of the hospitals which reported data for use in this study are given in Schedule A for the fiscal years ending in 1953, 1958, and 1962. The hospitals have been classified into six types for purposes of comparison in this study. The six hospital type classifications used are:

Large Teaching
Large City
Small City
Large County
Small County
Special

Schedule A

Total Operating Expenses
1953, 1958, and 1962

Type of Hospital	No.	Operating Expenses 1953	1958	1962
Large Teaching	3	$14,373,944	$22,886,663	$ 32,534,968
Large City	8	10,640,101	17,797,671	29,504,206
Small City	6	4,978,656	8,356,670	10,943,996
Large County	7	7,305,439	13,599,926	20,371,049
Small County	12	3,226,856	5,325,208	7,872,452
Special	3	711,972	1,139,759	1,698,582
Total		$41,236,968	$69,105,897	$102,925,253
Small County	1	–	$ 135,250	–
Small County	5	–	–	$ 2,433,515
Total			$69,241,147	$105,358,768

Schedule B shows that portion of total operating expenses including depreciation and interest which have been allocated to inpatient expenses. Again, the totals for the 39 hospitals reporting operating expenses for each of the three years 1953, 1958, and 1962 are shown separately.

Schedule B

Total Operating Expenses – Inpatient
1953, 1958, and 1962

Type of Hospital	No.	Operating Expenses – Inpatient 1953	1958	1962
Large Teaching	3	$12,118,281	$19,250,503	$ 27,204,898
Large City	8	9,983,266	16,349,507	26,477,217
Small City	6	4,639,040	7,697,191	10,081,268
Large County	7	6,838,818	12,753,771	18,868,011
Small County	12	3,148,940	5,141,448	7,450,845
Special	3	648,368	1,050,646	1,532,234
Total		$37,376,713	$62,243,066	$ 91,614,473
Small County	1	–	$ 125,094	–
Small County	5	–	–	$ 2,281,696
Total			$62,368,160	$ 93,896,169

Only 39 of the hospitals supplied operating expense data for all three years. Five other hospitals reported data for only one or two of the three years. So that trend comparisons may be made, the operating expenses of the 39 hospitals reporting operating expense data for all three years are shown separately. The operating expense figures shown in Schedule A are total expenses including depreciation and interest expense.

Both Schedules A and B show large increases in total operating expenses during the ten year period 1953 – 1962. During this same period there was an increase in total patient days, but the increase was not sufficient to offset the increase in total operating expenses. The result was an increase in patient average per diem costs, i.e., total inpatient operating expenses divided by total patient days. These two items, patient days and average per diem costs, are shown in Schedules C and D respectively. In both these Schedules, the totals for the 39 hospitals reporting figures for each of the three years are shown separately. In Schedule D, Average Per Diem Costs, the averages are weighted averages, i.e., an individual hospital's influence on the per diem average varies directly with that hospitals patient days relative to the patient days of the other hospitals in the group. Specifically, the per diem averages were computed by dividing the totals of inpatient expenses shown in Schedule B by the totals of patient days shown in Schedule C.

Schedule C

Patient Days
1953, 1958, and 1962

Type of Hospital	No.	Patient Days 1953	1958	1962
Large Teaching	3	505,305	565,555	620,244
Large City	8	570,897	649,783	753,033
Small City	6	233,803	289,063	282,092
Large County	7	384,546	511,108	609,962
Small County	12	187,010	230,050	268,588
Special	3	51,490	49,750	57,568
Total		1,933,051	2,295,309	2,591,487
Small County	1	–	3,703	–
Small County	5	–	–	83,448
Total			2,299,012	2,674,935

Schedule D

Inpatient Average Per Diem Costs
1953, 1958, and 1962

Type of Hospital	No.	Inpatient Average Per Diem Costs 1953	1958	1962
Large Teaching	3	$23.98	$34.04	$43.86
Large City	8	17.49	25.16	35.16
Small City	6	19.84	26.63	35.74
Large County	7	17.78	24.95	30.93
Small County	12	16.84	22.35	27.74
Special	3	12.59	21.12	26.62
Average 39 Hospitals		$19.34	$27.12	$35.35
Small County	1	–	$33.78	–
Small County	5	–	–	$27.34
Average 40 Hospitals			$27.13	
Average 44 Hospitals				$35.10

OPERATING INCOME AND ALLOWANCES

The gross operating income of hospitals is normally reported as the total amount billed for inpatient and outpatient services. The amounts billed are based upon a hospital's standard schedule of charges. The amounts paid, on the other hand, are in many cases determined by arrangements, contractual or otherwise, between the hospital and the paying organization, e.g. Maryland Blue Cross or the State of Maryland for indigent care. In still other cases, such as hospital care for hospital staff members, the amounts paid are less than the standard billing rates. There are also the amounts billed to individuals which are paid only partially or not at all by the individuals. The difference between the amounts billed for inpatient and outpatient care and the amounts paid for these services are commonly referred to as allowances. The gross income net of allowances is the amount available to the hospitals from gross income to cover operating expenses.

In this study, hospitals were requested to report their total actual allowances classified into six categories. These six allowance categories are listed and defined below:

1. Blue Cross. The difference between the hospital's established charges for Blue Cross patients and the actual amount received from Blue Cross.
2. Certified Indigent. The difference between the hospital's established charges to certified indigent patients and the actual amount received from the patients and from governmental agencies.
3. Freework. The amount of allowances from the hospital's established charges granted to patients rated by the hospital as unable to pay full charges and yet not eligible for public assistance.
4. Courtesy. The amount of allowances from the hospital's established charges granted to hospital employees, medical staff, clergy, private duty nurses, and other eligible groups.
5. Other Contractual. The difference between the hospital's established charges to other contractual patient groups, e.g. Workmens Compensation Patients, and the actual amount actually received from the patients and the contractual agency or groups.
6. Other. The difference between the hospital's established charges including charges for Blue Cross patients which are not covered by Blue Cross, but instead billed directly to the patient and the amounts actually paid by patients not in one of the five groups above. Allowances in this category would consist of such items as uncollectible accounts, disputed items such as late charges, etc.

There are wide differences between the hospitals in the allowance accounts actually used, with some hospitals having fewer than ten allowance categories and others having more than forty allowance categories. However, more important than the differences in number of allowance categories, would be differing criteria used in crediting certain allowance categories. As an example, where one hospital might credit the Freework Allowance for a particular patient's bill, another hospital might refuse to set up the patient's account as Freework and make a strong effort to collect the account. Hospitals also may differ in their policies as regards Courtesy Allow-

Schedule E

Operating Income and Allowances
1962 Fiscal Years

Type of Hospital	No.	Gross Income	Allowances				
			Blue Cross	Certified Indigent	Freework and Courtesy	Other Contractual and Other	Total
Large Teaching	2	$ 25,726,737	$ 699,652	$1,386,591	$2,173,125	$1,077,389	$ 5,336,757
Large City	7	28,959,638	2,073,699	1,007,234	810,623	614,563	4,506,119
Small City	6	12,222,585	330,938	374,876	430,818	501,468	1,638,100
Large County	7	22,748,805	785,158	618,231	136,446	782,402	2,322,237
Small County	17	11,405,880	425,297	292,598	19,064	381,482	1,118,441
Special	3	1,667,365	39,782	9,944	16,100	103,369	169,195
Total		$102,731,010	$4,354,526	$3,689,474	$3,586,176	$3,460,673	$15,090,849

ances. These differences between hospitals in the collection standards used have an effect both on the relative importance of the various allowance categories and, more importantly, on the hospital's income net of allowances.

Schedule E shows the total income and total allowances by patient groups, for each of the hospital types in 1962. These data were available for 44 Maryland short-stay general and special hospitals. However, both University Hospital (large teaching) and Baltimore City Hospitals (large city) are governmental institutions, and the gross income and allowances figures reported for these two hospitals are not strictly comparable to the corresponding figures for voluntary hospitals. Consequently, the data available for these two hospitals have been excluded from all schedules in this section of the report dealing with operating income and allowances.

While most hospitals maintain records of allowances to patient groups, e.g., Blue Cross, only a few hospitals maintain similar income records by patient groups. Consequently, it is very difficult to relate allowances by patient groups to the gross billings to these groups. Nevertheless, the total dollar amounts of allowances have little significance unless they are compared with the related gross billings. In order to arrive at the gross billings by patient groups it was necessary to make certain estimates.

Blue Cross and the Maryland State Department of Health both had available data on the amounts billed by hospitals for Blue Cross and certified indigent care and the amounts paid by Blue Cross and the State of Maryland to the hospitals. These data, while close, were not always for the identical fiscal periods used by the hospitals in reporting allowance figures. However, using the billings and reimbursement records maintained by Blue Cross and the Maryland State Department of Health, a percentage relationship of allowances to billings was computed for each hospital's Blue Cross allowance and certified indigent allowance. These percentage relationships were then applied to the allowance figures reported by the hospitals to arrive at an estimate of the related billings.

Freework and courtesy allowances were assumed to be exactly equal to the amounts billed.

After subtracting the estimated billings for Blue Cross, certified indigents, and freework and courtesy, from each hospital's gross income, the residual income was assumed to represent the billings applicable to other contractual allowances and other allowances.

Schedule F presents the estimated billings by patient groups applicable to the allowances shown in Schedule E (Operating Income and Allowances). Schedule G shows percentage of allowances to billings by patient types. These percentages were computed by dividing Schedule E allowances by Schedule F billings.

OPERATING RESULTS

The operating income net of allowances is the amount available for operating expenses. As discussed earlier in this report, operating expenses are normally allocated between inpatient expense and outpatient expense. While data were not available in many cases for inpatient and outpatient allowances, inpatient and outpatient gross income figures and the allocation of expenses between inpatient and outpatient expenses were obtained from most hospitals. These data are presented in Schedules H and I.

Schedule H presents the inpatient gross billings and inpatient expenses for 38 Maryland short-stay general and special hospitals for their fiscal years ending in 1962. The difference between the gross income and expenses cannot be called the profit or loss of the inpatient operation since allowances are not taken into account. For each hospital type in Schedule H, if allowances were considered the income totals would be significantly lower than the gross billings shown. Schedule I presents similar data for the outpatient income and expense of 38 Maryland short-stay general and special hospitals in 1962.

Schedule J presents a more complete picture of the operating results of 42 Maryland short-stay general and special hospitals in 1962. From this Schedule it is apparent that after consideration is given to allowances, many hospitals have an operating loss, i.e., operating expenses are more than gross income net of allowances. Other income in the form of grants, endowments, etc., is necessary for these hospitals to recover the excess of operating expenses over gross income net of allowances.

The data presented in Schedule J are taken from the audited operating statements of the hospitals where these were available. In some cases the hospital operating expense figures used in Schedule J are different than the operating expense figures used elsewhere in this report. These differences are due to differences in accounting treatment between the operating expense figures reported for per diem computations and those used in the audited financial statements. As stated earlier in this report, the hospitals' operating expenses reported for use in this study were reconciled with audited reports where these were available.

Schedule F

Total Billings and Estimated Billings by
Patient Group
1962 Fiscal Years

Type of Hospital	No.	Total Billings	Estimated Billings by Patient Group			
			Blue Cross	Certified Indigent	Freework and Courtesy	Other Contractual and Other
Large Teaching	2	$ 25,726,737	$ 9,317,183	$ 4,290,966	$2,173,125	$ 9,945,463
Large City	7	28,959,638	15,561,034	2,669,518	810,623	9,918,463
Small City	6	12,222,585	5,564,997	1,306,893	430,818	4,919,877
Large County	7	22,748,805	5,668,500	2,026,230	136,446	14,917,629
Small County	17	11,405,880	3,463,533	1,346,143	19,064	6,577,140
Special	3	1,667,365	791,235	85,145	16,100	774,885
Total		$102,731,010	$40,366,482	$11,724,895	$3,586,176	$47,053,457

Schedule G

Percentage of Allowances to Billings
By Patient Type
1962 Fiscal Years

Type of Hospital	No.	Gross Income	Total Allowances	% of Total Allowance to Gross Income	Percentage of Allowance to Billings by Patient Type			
					Blue Cross	Certified Indigent	Freework and Courtesy	Other Contractual and Other
Large Teaching	2	$ 25,726,737	$ 5,336,757	20.75%	7.51%	32.31%	100%	10.83%
Large City	7	28,959,638	4,506,119	15.56%	13.33%	37.73%	100%	6.20%
Small City	6	12,222,585	1,638,100	13.40%	5.94%	28.68%	100%	10.19%
Large County	7	22,748,805	2,322,237	10.21%	13.85%	30.51%	100%	5.24%
Small County	17	11,405,880	1,118,441	9.81%	12.28%	21.74%	100%	5.80%
Special	3	1,667,365	169,195	10.15%	5.03%	11.68%	100%	13.34%
Total		$102,731,010	$15,090,849	14.69%	10.79%	31.47%	100%	7.35%

Schedule H

Inpatient Gross Billings and Inpatient Expense Allocation
For 1962 Fiscal Years

Type of Hospital	No.	Inpatient Gross Billings	Inpatient Expense Allocation	Difference
Large Teaching	2	$21,133,168	$18,940,410	$ 2,192,758
Large City	7	26,551,900	22,493,276	4,058,624
Small City	5	10,259,190	9,187,062	1,072,128
Large County	7	21,145,503	18,868,011	2,277,492
Small County	14	9,650,339	8,729,707	920,632
Special	3	1,529,339	1,532,234	(2,895)
Total		$90,269,439	$79,750,700	$10,518,739

Schedule I

Outpatient Gross Billings & Outpatient Expense Allocation
For 1962 Fiscal Years

Type of Hospital	No.	Outpatient Gross Billings	Outpatient Expense Allocation	Difference
Large Teaching	2	$ 4,593,569	$ 3,901,279	$ 692,290
Large City	7	2,407,738	2,077,135	330,603
Small City	5	1,064,369	858,245	206,124
Large County	7	1,603,302	1,503,038	100,264
Small County	14	674,629	495,753	178,876
Special	3	138,026	166,348	(28,322)
Total		$10,481,633	$ 9,001,798	$ 1,479,835

Schedule J
Hospital Operating Results
For 1962 Fiscal Years

	Total 42 Hospitals*	Total 2 Teaching Hospitals	Total 7 Large City Hospitals	Total 6 Small City Hospitals	Total 7 Large County Hospitals	Total 17 Small County Hospitals	Total 3 Small Special Hospitals
Gross income	$102,731,010	$25,726,737	$28,959,638	$12,222,585	$22,748,805	$11,405,880	$1,667,365
Less allowances	15,090,849	5,336,757	4,506,119	1,638,100	2,322,237	1,118,441	169,195
Income net of allowances	$ 87,640,161	$20,389,980	$24,453,519	$10,584,485	$20,426,568	$10,287,439	$1,498,170
Operating expenses including depreciation and interest	90,542,356	22,618,940	24,450,009	10,905,892	20,376,778	10,462,155	1,728,582
Operating income (loss)	($ 2,902,195)	($ 2,228,960)	$ 3,510	($ 321,407)	$ 49,790	($ 174,716)	($ 230,412)
Non-operating income and expense:							
Contributions	$ 760,729	$ 190,085	$ 221,799	$ 10,374	$ 146,992	$ 188,802	$ 2,677
Endowments, appropriations, grants	2,485,452	1,894,615	–	100,000	220,468	80,538	189,831
Other income less other expense	(65,624)	(904,012)	257,169	237,055	160,230	86,055	97,879
Total non-operating income and expense	$ 3,180,557	$ 1,180,688	$ 478,968	$ 347,429	$ 527,690	$ 355,395	$ 290,387
Net income (loss)	$ 278,362	($ 1,048,272)	$ 482,478	$ 26,022	$ 577,480	$ 180,679	$ 59,975

* The figures for 42 hospitals exclude University Hospital and Baltimore City Hospital because for these Governmental institutions the "Gross Income" and hence the "Operating Loss" reported by these institutions (aggregating $3,899,103 and $2,898,645, respectively) are not strictly comparable to the corresponding figures for voluntary hospitals. Figures taken from official reports supplied by these two hospitals for the Fiscal Year ended June 30, 1962 and the year ended December 31, 1962, respectively are:

Gross income	$12,816,589
Less allowances	6,116,728
Income net of allowances	$ 6,699,861
Operating expenses including depreciation and interest	$13,497,609
Operating income (loss)	($ 6,797,748)


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